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CPC

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AMSTRAD ACTION

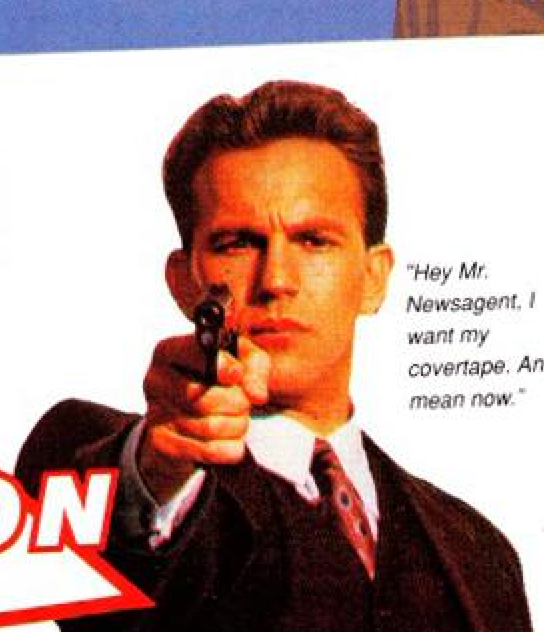
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How to load – p18

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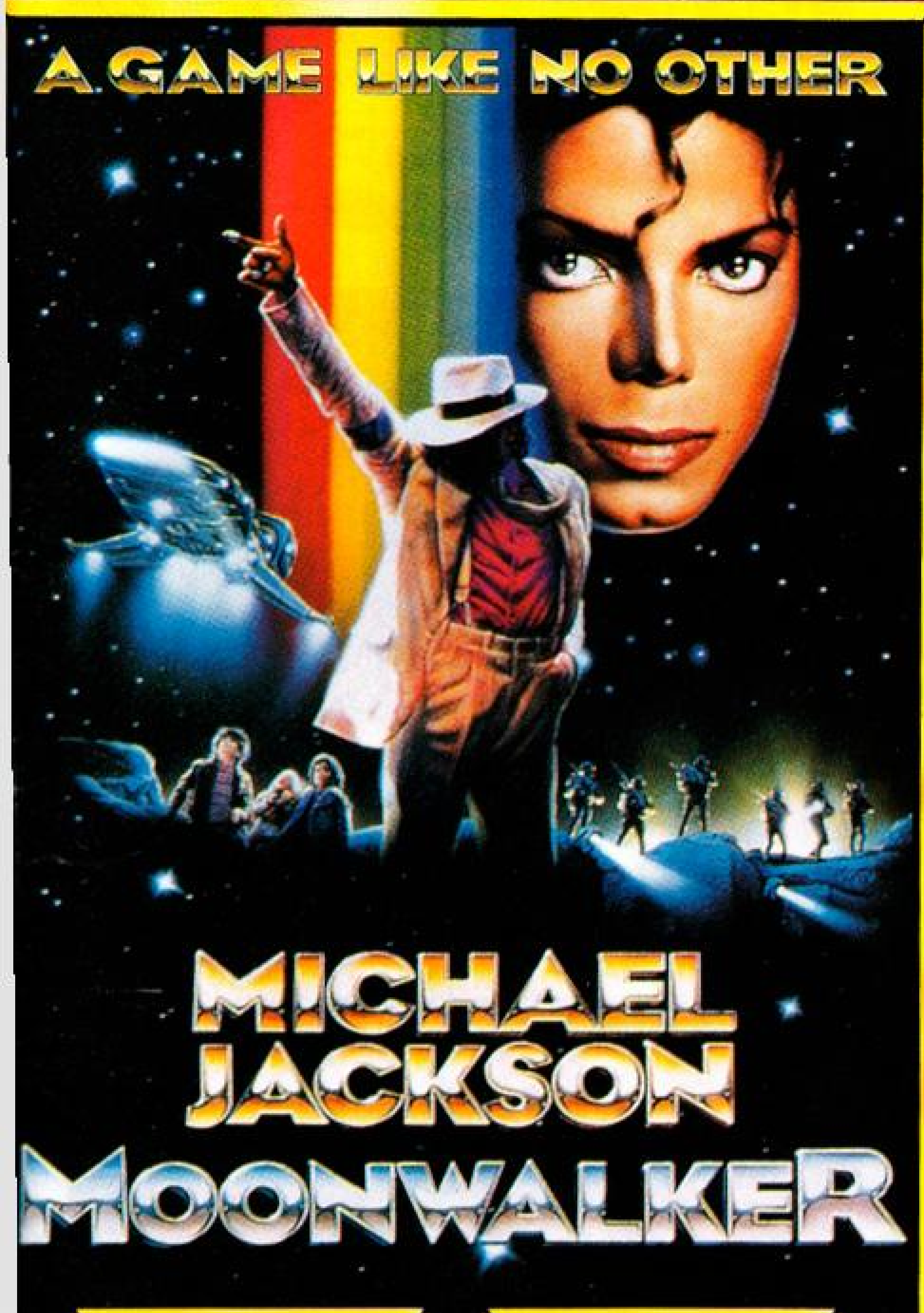
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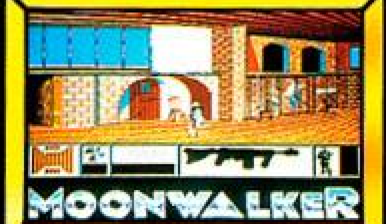
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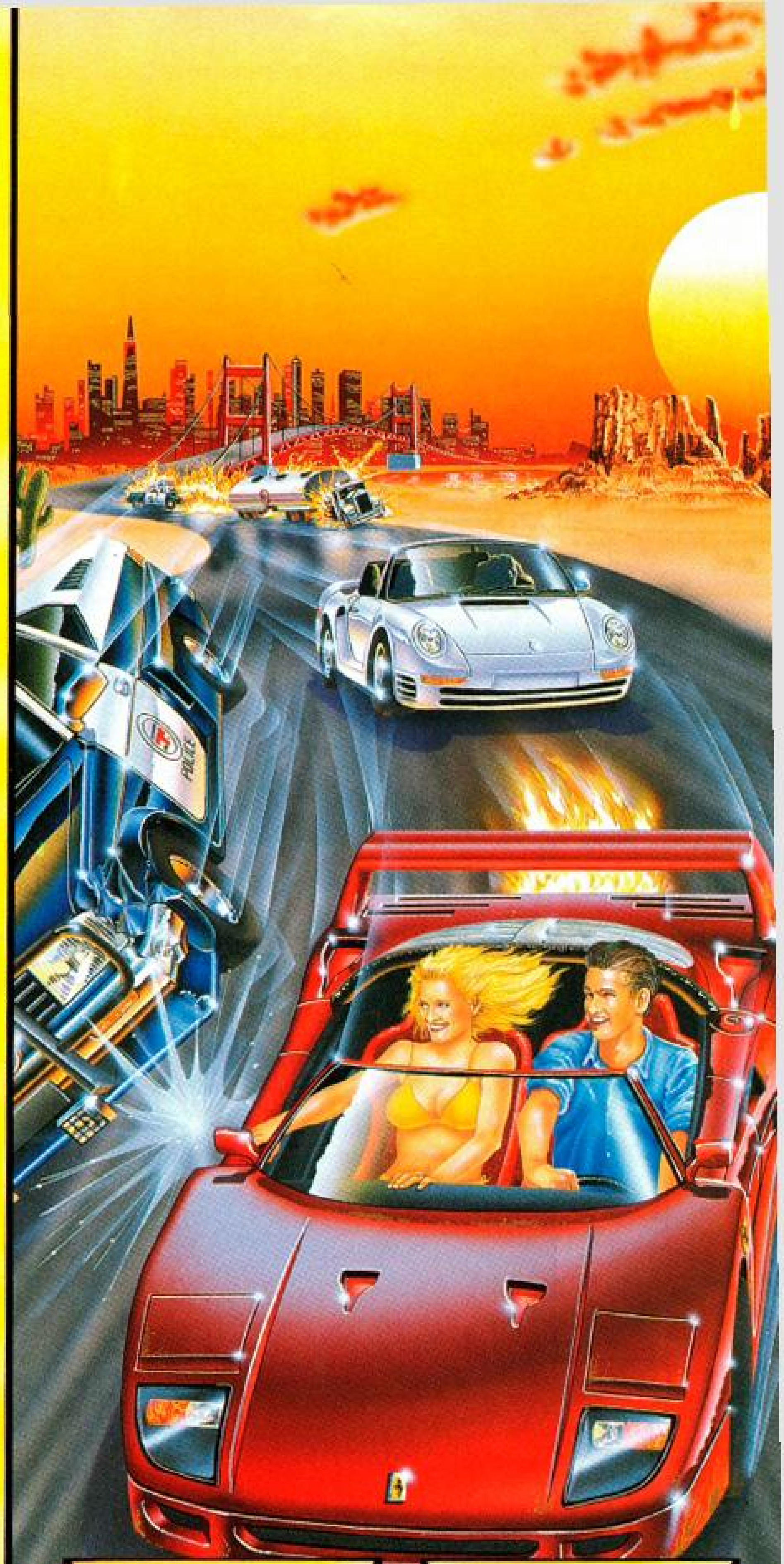
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January-June 1989

THE ACTION BEGINS ON 47!

THE VERY BEST IN CPC ENTERTAINMENT





Bigger than ever

Well, Christmas is here again, and as usual there's an absolute bumper crop of new games. But that's not all. Lots of companies out there are turning out some really good serious software and utilities. Tech Ed Adam Waring is currently scouring the manufacturers for the latest and best CPC goodies – and whatever comes out, you'll read it here first.

But what about when Christmas is over? All one, big, long anti-climax? Not a bit of it. Codemasters' astonishing new CD system is coming in right at the start of a new decade for the CPC – and for *Amstrad Action*. We've got exciting plans for the future, with even more in-depth, up-to-date and informative coverage of the CPC scene. And with the results from *AA*'s biggest survey yet being analysed right now, you can be sure we'll be bringing you yet more of what *you* want from *your* favourite magazine.

But for now, best wishes from the *AA* team for a merry Christmas and a happy New Year.

Rod

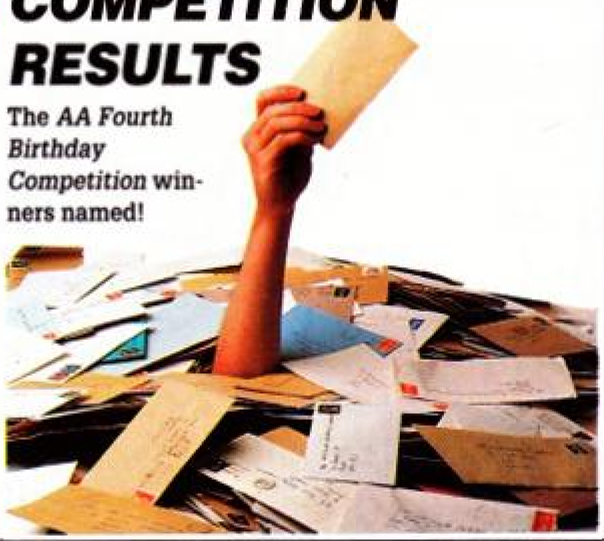


● The AA team. Back row, from left to right: Adam (mine's a large one) Waring, Ollie (bats) Alderton, Trenton (hunky) Webb, Paul (graduated tints) Morgan, . Front row, left to right: Elaine (I'm the normal one) Brooks, Rod (Übergruppenführer) Lawton.



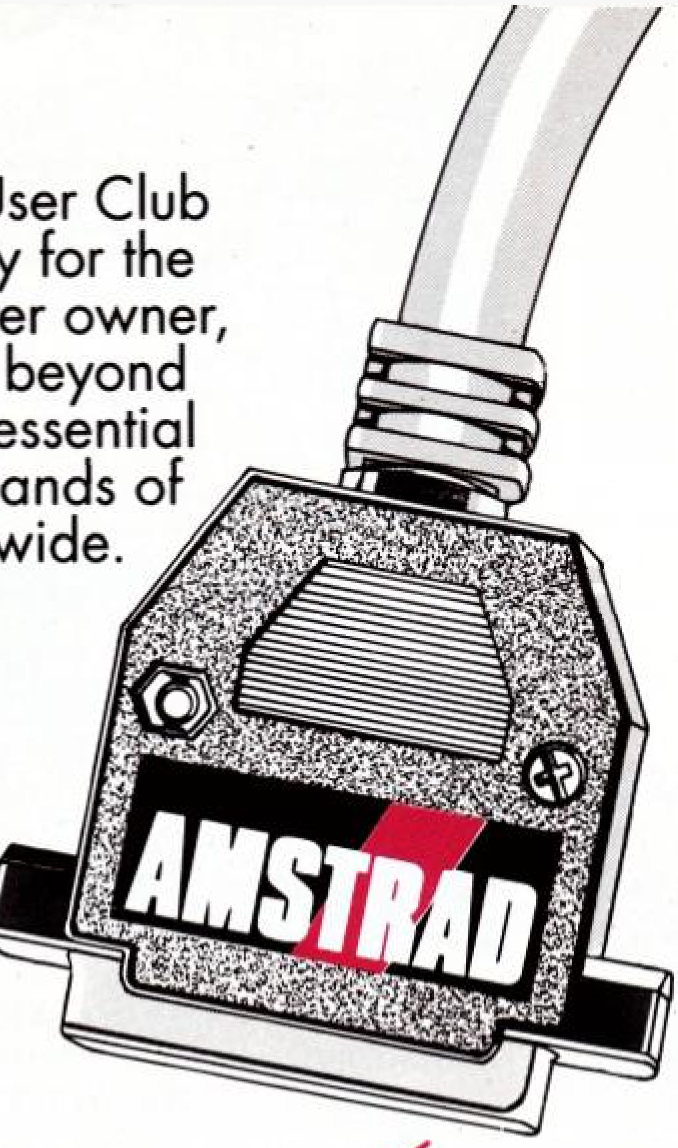






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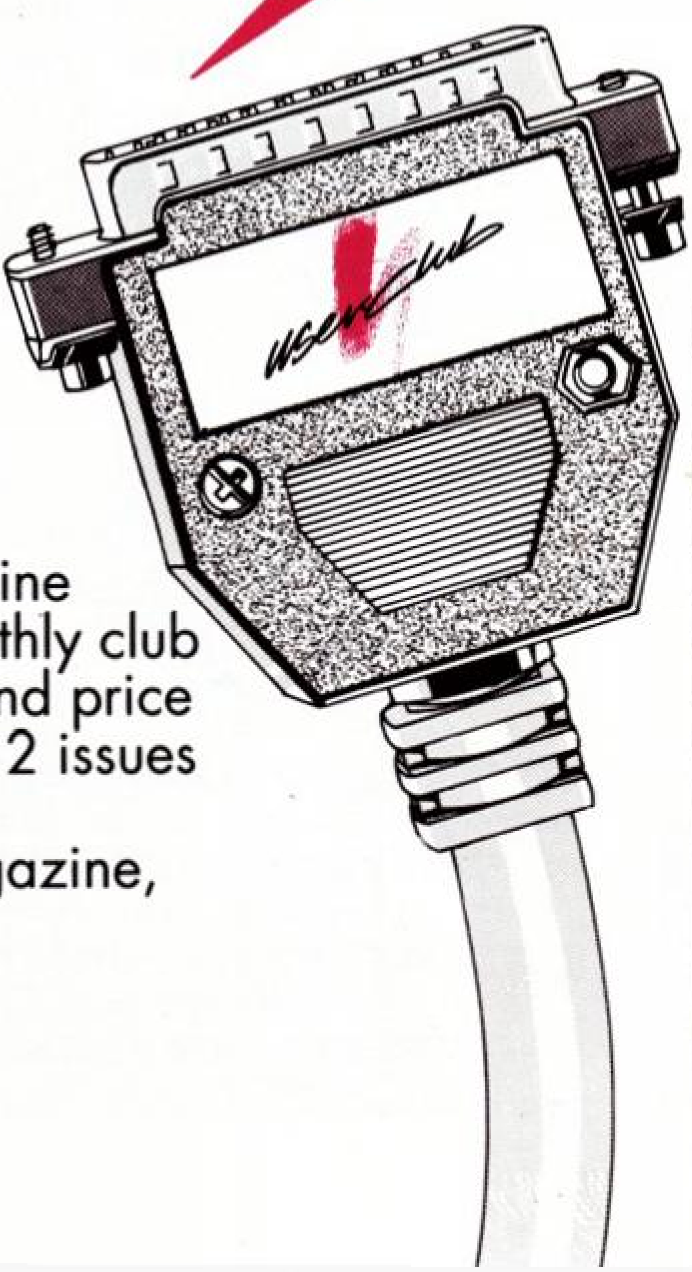
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CODEMASTERS' CD STUNNER!

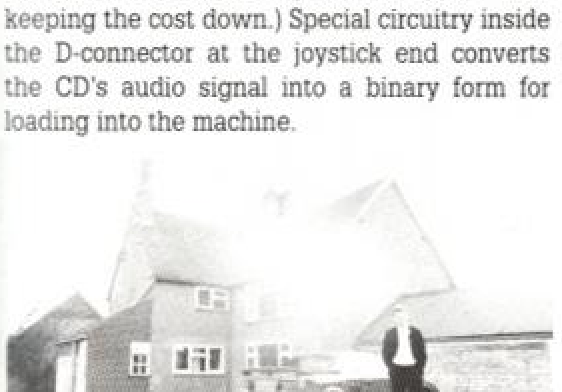
Darling brothers release 30 games in one compilation – on compact disc!

Codemasters has rocked the gaming industry with its new CD Games Pack. What's amazing is not just that the Games Pack costs a mere £19.95 (67p per game!) but that with it you get both a lead to connect *any* domestic CD player to your CPC and the special loading software to load the games in.

On the massive compilation will be such past hits as *BMX Simulator*, *Pinball Sim*, *Ninja Massacre*, *Fast Food*, *Treasure Island Dizzy*, *Four Soccer Sims* and *Fruit Machine*. And although the quoted number of games is 30, it seems probable that there will be more like 33 or 34 when the Games Pack goes on sale.

But just as significant as the huge number of games on the compilation is Codemasters' decision to release them all on CD. CD-ROM drives are expensive and rare, and certainly not available for 8-bit home micros like the CPC. So Codemasters has instead saved the games on the CD as an audio signal – a far less efficient format than true CD-ROM, but one which nevertheless offers a huge 3Mb of storage capacity on a single disc.

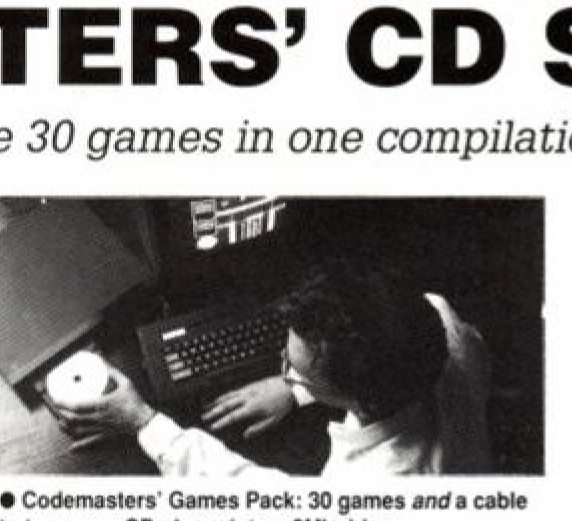
The Taiwanese-made cables provided with the Games Pack connect between a standard domestic CD player's ear socket and the joystick port on the CPC. (Codemasters chose to use the joystick port so that the leads could be the same for all three major 8-bit micros – thus keeping the cost down.) Special circuitry inside the D-connector at the joystick end converts the CD's audio signal into a binary form for loading into the machine.



● David Darling: Sitting on a goldmine?

Although the CD will be working effectively just like a tape loader, the much 'cleaner' CD signal and the built-in error checking incorporated in CD players, allows games to load far, far quicker – as quickly as 20 seconds for some games, in fact. This, plus the fact that any CD player will let you go straight to a selected 'track' at will, puts the Games Pack's performance more in line with a disk drive's.

Selling games on compact disc has been tried before. Rainbow Arts sold a 6-game compilation on CD for the C64 not so long back, but at £30 and being for the C64 only it was of minority interest and offered nothing like the value of the Codemasters product.



● Codemasters' Games Pack: 30 games *and* a cable to turn your CD player into a 3Mb drive...

But how many compilations can Codemasters bring out now that the technology is there? The company has a huge back-catalogue, but at 30 games a time, it can't last long.

No, the point is that Codemasters will first of all establish a huge potential user-base with this first – astonishing – bargain. Not only will the Darlings be able to release new compilations at a lower price, they will also be able to develop whole new styles of games that use the enormous storage capacity of a CD. So can we expect to see a 3,000-screen *Dizzy*? Or film tie-ins with screen after screen of digitised graphics and full-length soundtracks?

The Games Pack may be astonishing value at £19.95, but even more astonishing is the potential offered by the sudden accessibility of CD storage.

Future moves

Amstrad Action, along with parent company Future Publishing, is moving in the New Year. Our new address is:
BEAUFORD COURT
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AVON BA1 2AP
Tel 0225 442244
But remember, don't write to the new address or try to call us there until *after* January 1st...!

Amstrad speaks out

***AA* Tech Ed Adam Waring managed to collar Amstrad's Market Services Manager Chris Antsley at the *Shopper* Show.**

'How hard is Amstrad pushing the CPC?', Adam wanted to know, 'and what about the CPC console?' Here's what he got out of him...

Will you be advertising the CPC on TV over Christmas?
We're advertising the Spectrum Action Pack on television, I don't think we'll be doing the CPC as well. It wouldn't be a good idea to advertise both of them on television because obviously they're both selling in the same market.

Is there any scope for price reductions for the home computers, especially the CPC?
I doubt it. If there's some extra margin we tend to offer more – with the Spectrum we offered the Action Pack with the light gun.

And I suppose with the CPC you're doing the TV modulator?
Well quite. We're giving it free with the colour versions, and it has a percieved value of £60. It works extremely well, I might add, because the colour monitor that comes with the CPC started life as a portable television chassis and tube, and quite a good quality one at that, one of the reasons why CPCs have always been very reliable machines. The tuner gives a picture which is as good as any 14-inch portable colour TV.

Have sales increased dramatically since you bundled the tuner with the machine?
You can't really tell because sales are so seasonal. Having exactly the right stocks available is difficult. No manufacturer wants to be landed with huge stocks in the New Year and so we have often undersold at Christmas. If we had more stock we could have sold more. The CPC sales are still very buoyant. Some of the press at the PC show were trying to write it off, putting two and two together and making about 64! There's a fair bit of life in the CPC yet.

Is there anything in the pipeline you can tell me about?
Well obviously any company such as Amstrad will always be developing new products, some of which will see the light of day, but it's not our policy to comment on things we might or might not be doing in the future.

Is there anything you can tell me about the rumours of a console based on the CPC?
At any time we're looking at things, developing things. There are things that we've developed that have never hit the market, which nobody outside Amstrad ever knew about. If people knew about those, goodness knows what the rumours would be...!

SHOPPER SHOW '89

The 24th-26th November saw the launch of a brand new computer show. Aimed specifically at the buying public, rather than those impersonal trade-only shows, the first *Computer Shopper* Show had plenty to offer the CPC user.

The show didn't boast any major new launches for the CPC, it's not that kind of event. The shopper show is all about selling, and if it's bargains you're after then you've come to the right place.

It was the box-pushers that dominated the show, and you could pick up anything from dirt-cheap disks to cut price printers, and still have enough left over to give a few bob to the official show-sponsored charity, ChildLine. The three-day event saw a total of 27,686 paying visitors pass through its doors – many more than the expected turn-out of 20,000. The fund-raisers netted £1,875 for charity and people actually had to be turned away on the Sunday as Alexandra palace was crammed to bursting-point. Next year a much larger show is planned, and the venue has already been named: See you at Wembley folks!



● Festive charity collectors were on hand to raise money for ChildLine.

Not such a *Mini* Office



Mini Office, the suite of business programs from *Shopper* Show organisers Database has just reached the half-million mark in sales.

The package became popular because of its full implementation of business programs at a very affordable price, and has been a top choice for serious CPC users.

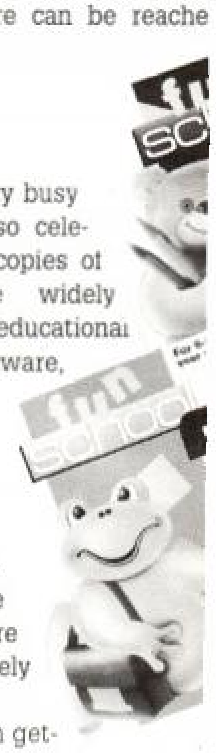
The Original *Mini Office* had sold 200,000 units before being revamped and re-released as *Mini Office II*, which carried on to become one of hottest sellers in the history of home computer software.

The original package is now even che costing a mere £2.99 from Summit Softwa includes a word processor, database, sp sheet and business graphics programs. . *Office II* costs £14.95 on tape and £19.9 disk. Database Software can be reache 0625 878888.



● Over 27,000 people turned up for the *Shopper* Show – 30-40% more than expected.

Lessons to be learned



Database has had a very busy month. The firm is also celebrating selling 60,000 copies of *Fun School 2*, the widely acclaimed series of educational programs. The software, designed by teachers for several different age groups, astounded everybody, not least the publishers themselves when it leapt into the top-selling software charts, usually exclusively dominated by games.

The firm's success in getting non-game titles into the charts is att ed to the software being low-cost, well-w and produced across a wide range of computers.

CHRISTMAS ADVENTURE

If you go under the psuedonym of Brian Bloodaxe, or Scurge the Troll, or even the Ba then you must be one of those adventuring t who solve tricky problems and hack dragons

Toplogika, the adventure specialist, can s ply your Christmas rations for fewer gold pie than previously. Its top adventure programs, including *Avon, Acheton, Countdown to Doo* and *Philosophers Quest*, are available for the yuletide season at only £11.95, the usual pric being £14.95. The games are also discounted a further 10% for additional games bought, u a maximum of 30% on four or more adventur

For more details, contact Toplogika on 0 244682.

DTP Update

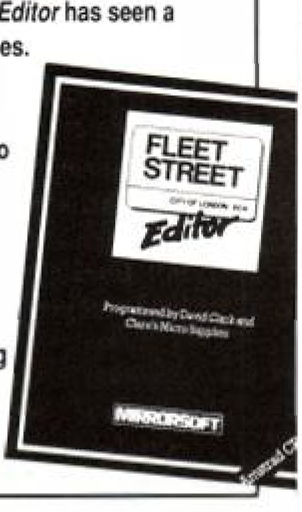
Two rival DTP packages hit the headlines this month. Both have been on the market for some time, but have been relaunched by the publishers.

SD Microsystems has relaunched *Page Publisher*. Originally a very low-key release marketed by the package's programmer, SD has added proper packaging and is advertising the product – to for a wider audience. Normally retailing at £24.95, it can be bought at the special launch price of £19.95 if you buy before the end of January. Talk to SD Microsystems on 0462 422897.

Mirrorsoft's *Fleet Street Editor* has seen a major update to its capabilities.

The original version was slammed by the press as being altogether too little, too late.

Hopefully the improvements will have gone a long way towards rectifying this. The package retains its £39.99 price tag, and existing users can upgrade for a tenner. Mirrorsoft is on 01 928



Sexist Software

Oasis, the Organisation against Sexism in Software, has just completed its first year.

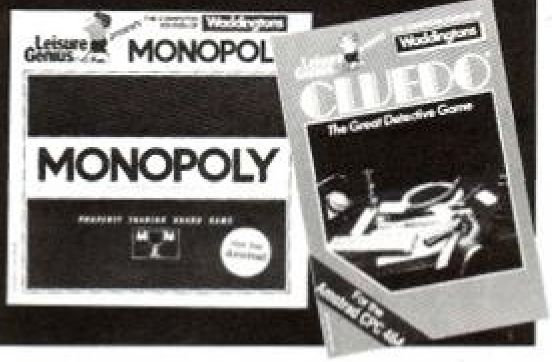
The pressure group was set up by outra feminists after the release of such products *Barbarian* and Strip Poker games, which por female sexual stereotypes in their advertisin game content.

Like-minded persons can join the organi tion by sending the £3 membership fee to:

Sandra Vogel, 3 Alden Court, Stanley Ro Wimbledon, London SW19 8RD.

Board game Monopoly

Leisure Genius is attempting to sweep the board of game compilations with the launch of its new triple pack of tape 'classics'. The company has combined CPC versions of *Scrabble*, *Cluedo*, and *Monopoly* for £19.99 – disk users get *Monopoly* and *Cluedo* for the same price. Ideal for all those people who need to know who dunn'it, who sold it and how to spell it!



On the Edge



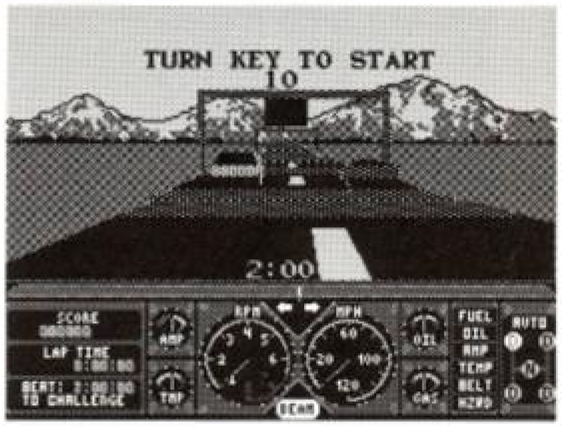
The Edge is back in town, this time touting its new shoot-em-up *Darius +*. A horizontally-scrolling blast out, the game sets you the task of saving the world in a sub-aquatic battle for survival. 28 levels of mayhem are promised as you face up to nasties armed with some of the most "evil weaponry mankind has ever conceived". *AA* will be getting stuck in just as soon as the game arrives.

HARD DRIVIN' – HARD CODIN'

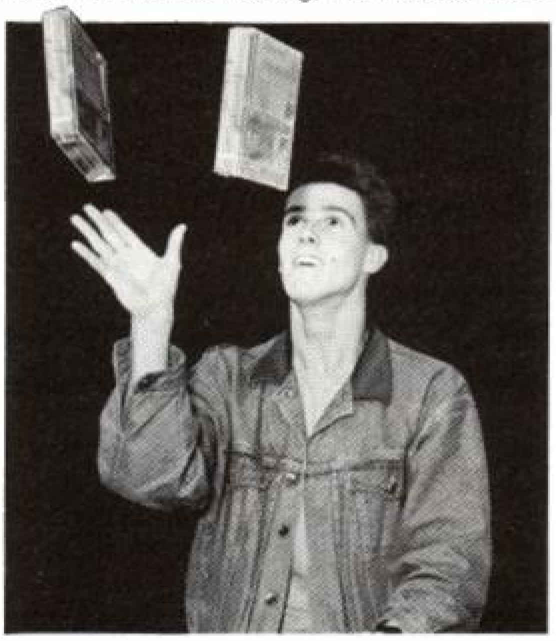
As the roads get jammed with 'racing games', Domark has finished the long-awaited conversion of *Hard Drivin'*.

Not merely a 'game', this is actually a simulator, where learning to drive comes first and going fast comes later. You are put behind the wheel of a car that handles like a racer but looks like a Cortina. There are two tracks to race on – a speed circuit and a stunt course – both featuring the 'Phantom Photon' as an opponent.

It has all those lovely little features like oversteer and manual gear change just to make life more interesting, and looks as if the



● Looks like a Speccy, plays like a Cray (almost).



● Hard Drivin' programmer Mike Day doing some real code-juggling (groan)!

wait has been worthwhile. It uses 3D the like of which has only been dreamed of before, and the results are breath takingly complex. The *Freescape*-style track moves fast – *very* fast – and any accidents are painfully reenacted from a side-on viewpoint, so you see yourself fly through the air and into trucks. The 'L' plates will be off next month with a full review.

The game has been coded by Binary Design, the team which brought us *Shinobi*. Mike Day is the member of the team who has been doing the hard number crunchin', and he's been working on the project since July. He claims to be a Z80 specialist, and on first inspection this doesn't appear to be an idle boast.



Games without frontiers

With 1992 drawing ever closer, Continental software houses are beginning to move in on the British market. Soon to hit these shores are new games from UBI Soft, Rainbow Arts and Infogrames. UBI Soft kicks off with a bevy of new products that includes *Pro Tennis Tour* and *Puffy's Saga*. One is a straight sports sim that was critically well received on other formats, while *Puffy*, is a cutesy game that has a lovable little ball creature wandering through a trap-filled maze. Both games should be here very shortly.

Rainbow Arts has broken its long CPC silence with *Rock and Roll*. In the game you control a a ball that has to be guided around a maze collecting all kinds of goodies such as keys and cash. Accompanied by jolly tunes and lurid colours, the game looks frustratingly good fun. *AA* will be having a ball with it next month, so stay tuned for more *Rock and Roll*.

● Rock 'n' roll the spheroidal way...



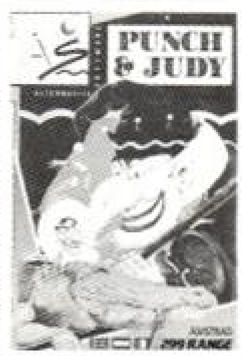


● The ARC development team.

Rainbow Arts has also announced something of a coup in prizing the programmers of *Forgotten Worlds* away from Capcom converters US Gold for another project, *X – Out*. Few details have been released as yet, but all the details on the ARC Development crew will be here next month.

Infogrames, which launched its *Tintin* series this month with *On The Moon*, has announced that it is planning a number of follow-up projects. *Red Rackman's Treasure* is first on the list and will follow the comic book closely for both plot and action scenes. It's already being coded and should be here in the following year. Let's hope Infogrames has got over the euphoria of the licence that led to such a weak opener on the gameplay front in *Tintin on the Moon* (see full review this issue).

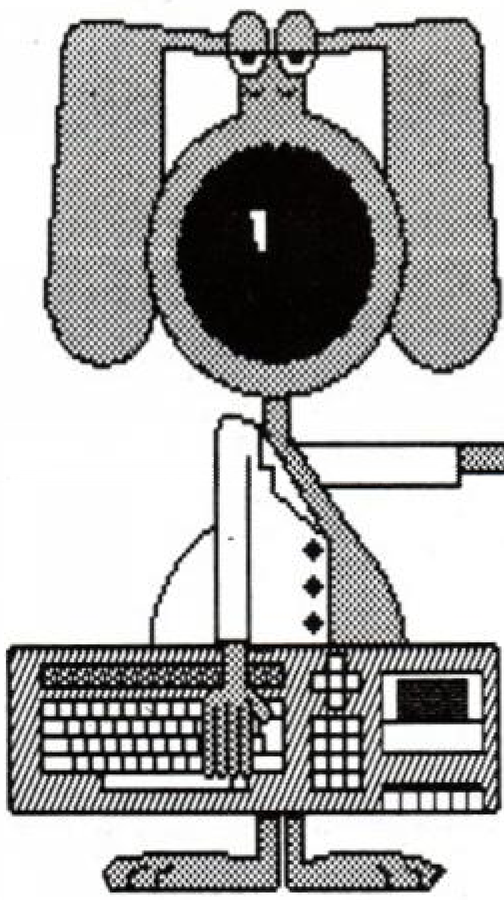
Punch Up



Budget licences are a relatively new phenomenon in gaming circles, but are the forte of Alternative Software. Following the success of *Postman Pat* Alternative is now launching two more games aimed directly at the younger market. *Punch and Judy* have arrived (*that's the way to do it! – ed*) and soon to follow are the adventures of *Sooty and Sweep*. This is a new approach to games marketing and if the games are as successful as *Pat* then we could see a whole new market blossoming for licenced product at ridiculously good prices.



● Look – no hands!Sooty and Sweep: Alternative pulls some strings.



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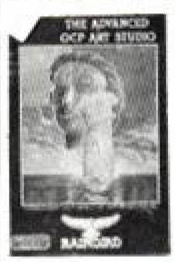
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REACTION

The GPO lowers in another skipful of letters by industrial tower crane...

●CPC obsolete?

In the latest edition of *Amstrad Action* you have two articles which comment on the future of the Amstrad CPC 6128. The first indicates that Dixons are going to liquidate their stocks at £250 a unit and the second that Amstrad will be marketing a console unit.

These two articles follow others concerning software manufacturers who intend no longer to develop products for the CPC range. I am now asking myself whether there is any future in the machine and if I should not be looking to another system for future investment in equipment.

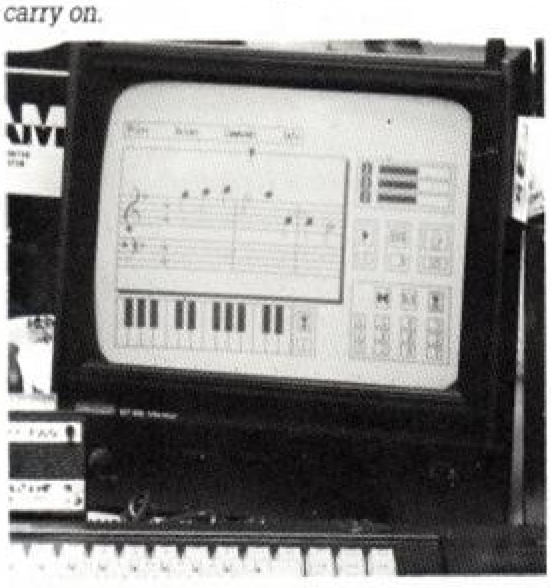
I use my CPC 6128 for my small business and run Brunning's *Infoscript* and *Supercalc 2*. I have a 256K memory extension. My daughters also uses the system for games and AMX *Stop Press* and *Easiart*.

I am considering purchasing a second system and a second disc drive. This will be a waste if shortly the CPC is obsolete and there is difficulty in finding software, discs, and spares.

An investigative report from your fearless magazine would, I am sure, produce the answers to these issues. At the moment I can only speculate on the probable outcome.

D H Arbuckle
Ingatestone, Essex

AA: *Well, Mr Arbuckle, rumours about the CPC's discontinuation have been going the rounds for as long as we can remember, and look set to carry on for as long again before the machine actually is dropped. The point is, it's a good, steady seller and makes Amstrad money. Until that changes, the machine will carry on.*



● CPC 6128 – "built like a tank"

As for being obsolete, if it does what you need it to there hardly seems any reason to upgrade. As long as there are CPCs out there, people will still write software for them, so I wouldn't have any worries on that score.

And as far as obtaining spares in the future is concerned, Amstrad will have stocks of spares long after the machine is discontinued. Anyway, the CPC is an extremely reliable machine. In the words of Adam Waring, our Technical Editor, it is quite simply "built like a tank"!

●Speaking up

I have recently bought off a friend the 'Amstrad speech synthesiser and stereo amplifier including speakers" package for the CPC 464, code SSA-1. I am wondering if you still get the speech synthesiser cassette, because the one I bought off my friend is broken.
Please can you help me?

Jonathan White
Essex

AA: *We're not quite sure of the package you mean, Jonathan. Datel advertises a 'Speech Synthesiser and Stereo Sound Booster' (see the ad this issue). It might be worth giving them a call on 0782 744707. Failing that, are there any readers out there who can help?*

●Earning their Keep

I am writing to congratulate Castle Computers on their excellent mail order service because their games are always delivered within three days of ordering them. I am always pleased with the goods and I would recommend Castle Computers to anyone.

Catherine Buckland
Cheltenham

●Diskgraceful!

I own an Amstrad CPC 464 and couple of years ago I bought a disk drive which is really handy as it saves the loading time of games. But to my despair I am unable to obtain games on disc anywhere and it's really annoying. Where I live, there are plenty of shops that sell CPC software but its all on TAPE!!!!! If ever I want a disc game I have to order it by post which takes ages or join one of these clubs. Anyone who owns a 664 or 6128 which has no tape player has my greatest sympathies!!!

Edward Matthews
Nottingham

AA: *Well all we can say to those naughty retailers is JOLLY BAD SHOW. We reckon about half our readers have 6128s by now, so it's about time retailers caught up. Specialist computer shops ought to be able to sell you disk versions, so see if there are any in your area.*

●Size-ist comments

Why have you not reviewed *Carrier Command*? I bought it on release day and eagerly awaited for a Mastergame review. If it's because Rainbird didn't send a copy of for review then 'Up' them I suppose. Oh yea – it's 6128 only, so **** to Michael Heyes of Lancs *AA*51! I think all 64K Amstrad users should be held at gunpoint and made to upgrade to 128K so all software houses would take advantage of the extra memory. Well, I know Ocean usually do so I'm collecting all their new software now!

AA will go on for ever won't it? I've convinced myself its not worth upgrading to the Amiga as my 6128 is too good a friend, so at least I'll be buying for ever!

Well thanks for reading this letter and keep this great mag going.

Phil Brown
Hatfield, Herts

PS If printed please say hi to Jo, Kim & Tracey! (Please, they would love you for ever)



● Why didn't *AA* review *Carrier Command*?

AA: *The reason we never reviewed* Carrier Command *is that – as you rightly surmised – we never got a review copy. We still don't know whether this had anything to do with the fact that it was a blatant Speccy port.*

As for making 64K owners upgrade at gunpoint, surely they've got something to say about that? (What, me a troublemaker? No, never... ho ho.)

And yes, AA will go on for ever. Unlike some other CPC mags which just seem to go on for ever...

●A bard's tale...

This poem was penned during a burst of inspiration brought on by my husband and two sons (ages 5 and 3) abandoning me and the teatable to use the computer.

Maybe it will stike a chord with a few wives who, like me have a mild interest in computers and scan through AA when their husbands are out!

Keep up the good work, you keep HIM happy for hours!!

Mrs Susan Bertram
Bolton, Lancs

Now we were married some eight years ago.
Since day one I've been a computer widow.
Night after night I've sat knitting
While all the computer keys HE'S hitting
How quick they travel up and down
Accompanied by a smile, often a frown.
Seasons come and seasons go
Spring, summer, Autumn and winter with snow.
A new game is purchased, so I'll have to go.
Don't think I'll ever make a golfing pro!
A new house now, that is it
First priority - where will the computer fit
Can I really take the strain,
Or should I leave on the next train.
But now at last after eight long years,
There's an end in sight to all my fears.
If it can't be beat then lets join in
I pick up the art package and what's within
'Can be used for fabric and knitting design'
All kinds of ideas run through my mind
What will the next 8 years hold in store?
Who will use the computer more?
And will it be for knitting, or for fun?
Or will we both be beaten by our oldest son?
At five years old he's already hooked
I can see the computer will be fully booked.

***AA:** Follow that! No, on second thoughts...*

●Sky's the limit

In the May issue of *Amstrad Action*, (*AA*44). One of your readers, a Mr G Dunbar, asked you about software on astronomy for the 6128. You quoted *Astro 2001 Planetarium* from one called *Star Watcher* (Soft 1915) from Amstrad, I obtained it ine July 1986, it cost £20-35 then. If it's still available (which I doubt) it is most likely much more now!

If Mr Dunbar is interested, I have several programs on astronomy. One of them is your *Solar System* which was listed in one of your mags, (can't remember which issue it was now), which I typed in (and it *worked*). I also have a program I compiled myself, which, for want of a better title I have called *SKYATNIT*. It is 18K and menu-driven. I started it in 1986 (I think!) and have just, with the help of a friend, finished.

So, if, Mr Dunbar or anyone else would like copies of these programs, all they have to do is send me a disc and I will transfer my copies for them.

All I ask, is that they send cheque/postal order for one pound, to cover postage and my time spent on completing *Skyatnit*. I also hope that they remember *Skyatnit* is *my*copyright.

I guarantee to return all discs with the above programs duly saved on them, on the understanding that all discs are properly formatted and error-free.

Also, if anyone would like a copy of a text-only adventure, (which is also my copyright!), it takes up 33K and has 120 locations to visit. Send a formatted disc and one pound and I'll return a copy, with the same gurantee as above.

I take this opportunity to wish all at *AA* and its readers, a very merry Christmas. Keep programing ladies and Gents!

George Baxter
4 Chancel Close
West Kingsdown
Sevenoaks
Kent TN15 6UD

PS Please note, that *Skyatnit* and my adventure are both in BASIC only.

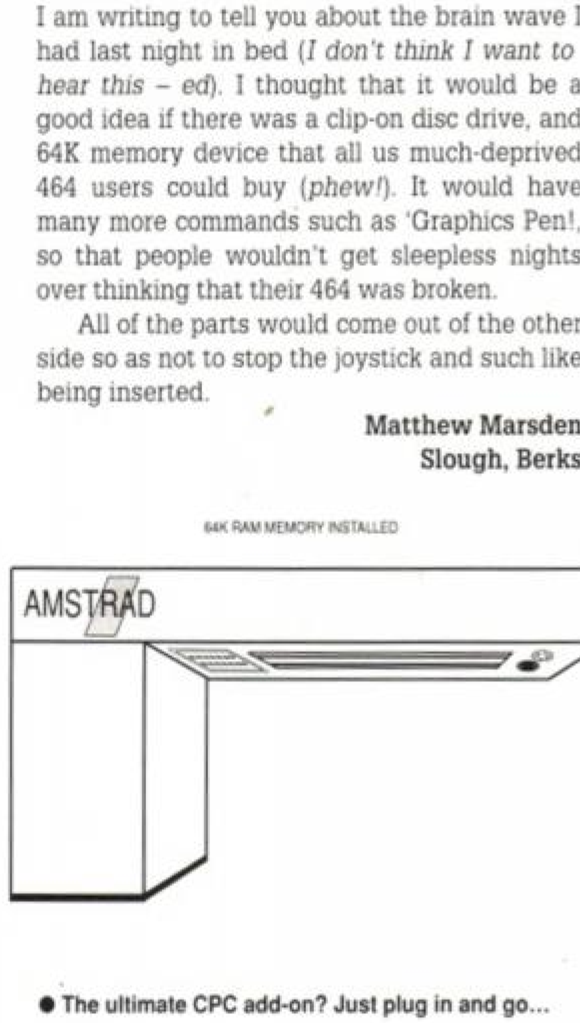
***AA:** Thanks for the help, George, but there is one important point. You can't send people duplicates of commercial software – that's piracy! Anything you've written yourself is fine, though, as is public domain software. If anyone wants to take George Baxter up on his offer, give us a call and we'll pass on the address.*

●The ultimate add-on?

I am writing to tell you about the brain wave I had last night in bed (*I don't think I want to hear this – ed*). I thought that it would be a good idea if there was a clip-on disc drive, and 64K memory device that all us much-deprived 464 users could buy (*phew!*). It would have many more commands such as 'Graphics Pen!, so that people wouldn't get sleepless nights over thinking that their 464 was broken.

All of the parts would come out of the other side so as not to stop the joystick and such like being inserted.

Matthew Marsden
Slough, Berks



● The ultimate CPC add-on? Just plug in and go...

***AA:** A very interesting idea, Matthew. Has anyone else got any brainwaves for transforming the CPC?*

●Putting the record STRAIGHT

I am writing to you so you can get your facts right. In the June '89 issue of your mag you had a footie special, and on page 40 you have a coloumn saying some football firsts.

Well when I say this I am speaking for all of ST HELENS and WEST AUCKLAND (both next to each other). You say that in 1930 (July) Uruguay won the first World Cup. Yes, you've got it – it's wrong! WEST AUCKLAND won it – we beat Juventus. I do not know the date but we won it (The LIPTON'S WORLD CUP) as it is our W.M.C.

P S If you want proof I will get it. I love the Mag!

M Shepherd
Durham

***AA:** Well how EXTRAORDINARY. We can't IMAGINE how we came to overlook SUCH a blunder. However, just for BEING a smartie, you will get NO prize. (Ho ho.)*

●Wot, no Sprite Driver? Er, no...

Back in April '89 (*AA*43) you printed a *Type-in* called *Sprite Editor* and promised a sprite driver listing to follow.

This did not appear (*ah, no, but...*), but mention was made of this appearing on a free cover tape (*yes, OK, we did say...*) and indeed the one supplied with *AA*49 in October does say on the label (*ah, yes, now we can explain this...*) that *Sprites Driver* is on side B. Alas, on my copy (*no, er, well...*) it does not exist, and assuming this was a label printing error (*well, not exactly*) I expected to read of it in a later issue. Have I missed a report hidden in the depths of the November *AA*, or is my tape faulty? Please clarify.

Matthew Craven
Bury, Lancs

***AA:** Well it's like this. Ex Tech Ed Pat MacDonald was definitely going to write the Sprite Driver at any moment. The trouble is, that moment never arrived, and Pat is no longer with us. And after all those months on the edges of our seats... we can only apologise.*

●Untitled

Every mag, every shop but nowhere can I find a computer video titling set for the CPC 464. I now am having to look for a Speccy!!! (but at least it has a titling prog) please can you save me and tell me – is there one???

Daniel Bourne
London

***AA:** We don't know of one, but then if someone out there knows better...*

●Vive le difference!

Being new to the computer scene, I have been buying different mags to see what software availability there is for the different machines

available. I have decided to go for an Amstrad CPC 6128.

I saw your magazine in my local paper shop and I must say it was the best magazine out of the many I had read – though I was surprised at C Harrisons remarks about the Price, I would imagine he is still buying the magazine and will see this letter because simply for information news, reviews and much more £1.45 is great value nowadays compared to some of the "comics" I read through. Definitely worth subscribing to.

Finally, the "Broadley" column seems to imply that the only advantage between cassette and disk is disk faster loading. Is the software available on CPC disk exactly the same as that on tape (except for price)?

Gordon Mackie
Fife, Scotland

AA: Gosh, er, thanks for those word of praise. In answer to your question, there is a great deal of serious software for the CPC which will only work on the 6128, with its extra memory. In these cases, the programs are supplied on disk only, and will not work on the CPC464. Also, while the rest of the programs available – including nearly all games – are pretty much identical on both tape and disk, it's easy to underestimate the far greater convenience, reliablity and general time-saving that comes from disk-based software.

●Free advice

The enclosed tape was purchased from a Post Office for 50p. They had a box of assorted Amstrad and other computer companies tapes all at 50p. The first one I purchased did not work and on taking it back to the shop was given this one in exchange . It too does not work so I am returning it to you for your views.

I have been looking for a copy of this tape, so if you could replace it, it would be appreciated. However it seems to me that this particular shop is trying to sell tapes that should have been returned to the companies having been returned by other customers on being found to be faulty. If so these should not be re-sold.

Mr M Long
Malvern, Worcs

AA: Hmm. A tad naughty methinks. In fact, we spoke to the proprietor concerned, and he assured us whilst being toasted over hot coals that the cassette must have fallen in the box "by mistake". Whatever the whys and wherefores, AA Covertapes are NOT FOR RESALE. They are given away free as part of the magazine (Everyone out there listening?) Some newsagents (bless their little cotton socks) are in the habit of taking the tapes off, storing them behind the counter and reuniting them with the magazine only when someone buys it – so if there's no tape on the cover, ask for one.



● The *AA* Covertape. Absolutely beyond price – that's why there isn't one.

●Subs on tick

I have owned a 6128 for several months but have only recently come across the wonders of your brilliant magazine. I would like to subscribe to *AA* but I simply cannot afford to send you the fee of £17.95 all at once.

If you offered the option of paying for a subscription in 3-month stages rather than a lump sum, I am sure that more people, including myself, would subscribe to you.

Richard Lorrison
Colne, Lancs

AA: Well we spoke to our Subscriptions Manager, Jane Nolan, who sent us away with a flea in our ear because she's already cutting margins to the bone at the current price anyway. Nevertheless, we got her to agree to look into the idea if enough people wrote in. So you know what you've got to do, don't you!

●To copy or not to copy?

My son had been saving his money to buy *After Burner*, and when it arrived I had a quick game to see what it was like, as usual it beat me after a minute. I took the disk out and powered off the machine. When my son tried to load it later it would not load, so I had a go at loading it. No matter what I tried it would not work. I checked the disk for errors but found none. I now take disk backups of all his expensive disks, only this time I didn't do it first.

I took a backup of *Afterburner* to see if that would fail, but it didn't, so I rebuilt the speedlock, and the game worked. As a backup had been made I attempted to rebuild the speedlock on the original, (I know this will invalidate any guarantee but we want a working game). Now it loads every time, and the only thing I can think of was that the speedlock had a weak signal.

I knowthe software houses have to protect the games, but why do they have to push my disk drive and controller to the limit to do so? Secondly, I am the only one who uses these backups, and I made them becuase I don't like all the time and problems that I had getting a game that doesn't work replaced by a large software house – we bought the game, so why can't we play it?

I do agreed with Emma Broadley in *AA*48. It's our game as long as we don't sell or give the copies away. Under the new act, though, does this mean that only the purchaser of the game can play it. If this is the case, it is illegal for my son's friends to play these games with him?

If so I thing the market will die.

Nigel Mells
Middlesex

AA: There's no problem with making backups for your own purposes. As you say, you bought the software and you're entitled to use it. Neither is there any problem with your son and his friends playing your games. You can give away your own copy or let other people use it as much as you like – what you must not *do is make another copy for them while keeping your own.*

●A nice man, a very nice man...

Thanks for highlighting the plight of Michael Schofield, who has been trying to join the Amstrad Home Computer Club. (*Amstrad Action Letters*: November issue.)

Unfortunately we can't find Mr Schofield's details on our computer without his full address. Perhaps you could help us out, either by giving me his address or by printing this letter.

If you can help, then I'll deal with Mr Schofield's case personally.

Phil Godsell
Marketing Manager
Home Computer Clubs
Book Club Associates
87 Newman Street
London W1P 4EN

AA: What nice people!

●Talk to me!

My mum wants to get a (dictaphone is what she calls it) thing for speaking through a microphone and the words come up on the screen. Can you get one for the CPC?

Jonathan Wilson
Loughgilly, Co. Armagh

AA: The good news is that it has been done. The bad news is that it hasn't been done on a CPC. Getting a computer to recognise speech is very difficult indeed because people speak at different speeds, with different accents and so on. So I'm afraid the simple answer is no.

●Best is yet to come

I remember about this time last year there were many people writing in to your fab magazine asking if you thought that Xmas '88 would be the last stand for CPC games. Admittedly, there was considerable evidence to support their case, but look what has happened since.!

If anything, the CPC market has grown, especially with the recent price cuts. Increasingly, Amold versions of games are becoming the best of the 8-bits, and with French software houses supplying only STs and us (not Speccys or 64s), the future looks anything but bleak. Programmers have reached the limits of the above two, but not the Amold (well, apart from *Purple Saturn Day*)

What I'm saying is don't upgrade yet, fellow Amsters. There is more to come...

EM
Sunderland

AA: Give that man a cigar! (You do smoke, don't you...?)

BROADLEY SPEAKING



EMMA BROADLEY sinks her teeth into Amstrad's advertising allocations. And will Codemasters make the most of the CD Games Pack? Plus – the end of the sex 'n' violence debate...

Codemasters has pulled off a major coup with its new CD Games Pack – but will it capitalise on its success?

What people – possibly even the Darling brothers themselves – seem to lose sight of is the sheer technical achievement. Purists will call it a bodge, but the point is it works. No, instead everyone is raving about the number of games on the CD, which makes about as much sense as Sir Francis Drake commenting on the quality of the Spanish cannonballs.

So what makes the CD Games Pack so important? Certainly it's not the 30 budget games on the disc. No, it's the technology Codemasters has developed that's fascinating. Forget expensive and esoteric CD-ROM drives that only one per cent of the population will be able to afford anyway – Codemasters has produced a system which requires no additional hardware and brings mass CD storage *to* the masses – all for the price of a 16-bit game!

Practical solutions

The Codemasters solution is decidedly low-tech, but it's also very simple. The maximum capacity of the Games Pack CD is probably no more than 3Mb, while a true CD-ROM disk will hold nearer 600Mb. And with the Games Pack, you have to operate your CD player manually, as opposed to a true CD-ROM drive, which is controlled automatically by the computer. But Codemasters has still turned domestic CD players into a potential disc drives that even tape-based 464 owners can use.

Admittedly the CD player will work more like a tape loader, since the data is recorded as an audio signal rather than digitally, but the ability to select tracks instantaneously, coupled with the much faster loading speed and far higher reliability puts the CD player far closer to a disk drive than a tape loader in actual performance.

These loading speeds could, combined with a CD's immense storage capacity, hold the key to an entirely new generation of CPC applications. These are gone into in more detail in the special CD Games Pack feature on page 35 of this issue, but quite simply the potential is breathtaking.

Cashing in

But will anything come of it? The Darlings may be experts in the production and marketing of budget software, but have they spawned something potentially bigger than they are?

The series of innovations that Codemasters has come up with – leads containing audio-digital signal coversion circuitry, loading via the joystick port etc – are interesting but not entirely remarkable. Most competent hardware/software engineers could have solved the technical problems – individually. Codemasters has, however, solved the problems en masse – and a solution to a whole problem is worth a hundred times more than merely solutions to all the little problems that make it up. It's making the system work, not just the components.

Now if it was me, I would sell that solution harder than I would sell any specific CD game or compilation. There must be more than a few software houses out there which would be loath to attempt the same development feat themselves – but which would be more than interested in paying a small consideration to be able to use Codemasters' tried and tested methods...

Maybe it's time the Darlings changed gear, especially if they can continue to turn out highly innovative – and supremely practical – products like the CD Games Pack. The way I see it, the Darlings have a decision – they can either let a golden opportunity slip away, or become a major force in computing.

Broadley Brickbats

If you've got anything to say about Ms Broadley's column, or the opinions therein, write to:

Broadley Brickbats, Amstrad Action, 4 Queen Street, Bath BA1 1EJ

Ms Broadley's opinions are not necessarily those of the editorial team. We should also point out that anyone wishing to take issue with Ms Broadley on any of the topics covered may well be refused medical insurance.

AMSTRAD WRONG AGAIN!

Astonishing. Amstrad is spending a paltry £600,000 on promoting the CPC this Christmas, while £2.5 million is being thrown away on pushing the Spectrum!

It seems that the CPC will only be advertised in the national press, while the Spectrum Action Pack will be on the TV. Quite why Amstrad should put so much money behind the Spectrum is quite beyond me. The CPC is plainly the superior machine in every technical respect. The only possibility I can think of is that they don't need to push the CPC, while countless millions of unsold Spectrums are mouldering away on warehouse shelves in some forgotten corner of the globe. Otherwise, Amstrad's decision makes no sense whatsoever. But then what's new?

THE LAST WORD

I write in support of Ms Broadley. Usually I agree with her, and even when I don't hers is most often the only sensible voice in the magazine.

I'm not being patronising. Ms Broadley writes often about gratuitous sex in computer games. The 'Turbo Combat Droid Sex' brigade try to shout her down, but the fact is that *AA* often has a distinctly seedy appearance, what with its seamy adverts and mindless text. This is having a long-term effect: the number of women studying computing seriously is falling rapidly, even though the opportunities in computing have never been better. Britain desperately needs all the brains it can get, so could Ms Broadley persuade *AA* to run a competition along the lines of £50 for the best game and '£50 for the best utility for the CPC, written by women'. It would show that *AA* really cared; it could reverse a trend, and should be good for business.

Tony Clarke
Leicester

Well thanks for the support, Tony. While I agree with most of the things you say, your idea for a competition does pose problems. The main one is that it's about the most sexist proposal I've ever heard of! It would imply that women were incapable of competing with men on an equal basis – and you can imagine what I think of that!

As for your comments about AA generally, I'm afraid I can't agree with you there, either. I am paid for my contributions, but I could happily manage without the money. I could also write for another magazine, but AA is frankly the best.

You are right, however, in that computing is a male-dominated field filled with male-dominated imagery... however, Rod's told me off for digressing in recent weeks! From now on my brief is firmly CPC computing, and nothing else.

Thanks anyway.

100% DYNAMITE

AFTER BURNER



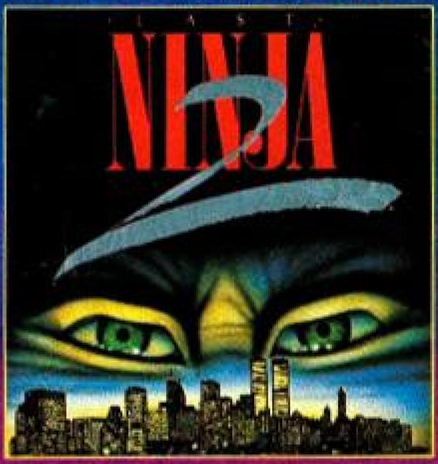
SHAKE ... RATTLE ... ROLL IT

AFTERBURNER — You've played the arcade smash – now experience the white-knuckled realism of a supersonic dogfight at home! Using your heat-seeking missiles and laser anti-aircraft fire, can you be top gun against supersonic swarm?

Experience brain-numbing G-forces; bones rattling with the body-jarring pitch and yaw ... scan with your radar, lock on your target and FIRE!

AFTERBURNER TM SEGA © are trademarks of SEGA ENTERPRISES LTD. This game has been manufactured under licence from Sega Enterprises Ltd., Japan.

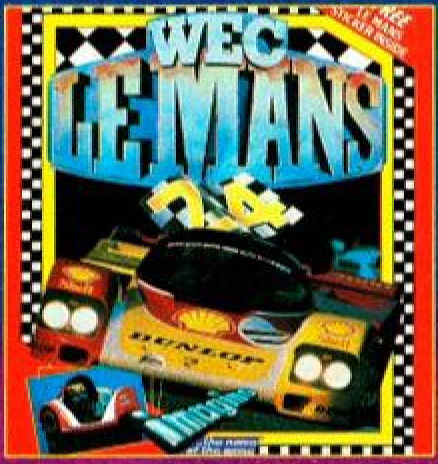
LAST NINJA 2



Once beaten, but not destroyed, the evil Shogun Kunitoki used all his mystic powers to transport himself through time and establish a new empire of tyranny in modern day Manhattan. In fear of Kunitoki's growing powers, the arcane gods used all their wisdom to bring you, the Last Ninja, across the abyss of time and confront your arch-enemy once more. You arrive in this frightening and awesome modern world bringing nothing with you save your intelligence, skill and cunning and a burning desire for vengeance. Will this be the final battle? Can you vanquish Kunitoki once and for all?

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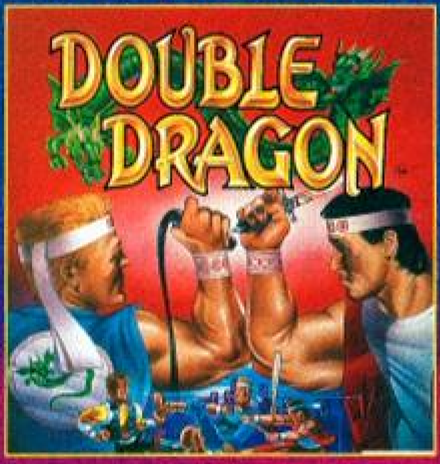
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The World's most famous sports car race comes to your home computer screen with this exciting simulation of the 24 hour Le Mans race. World endurance Championship sports cars battle through day and night sequences where both strategy and driving skills are required to take the winner's laurels. This stimulating challenge inspired by Konami's sit in driving simulator reproduces all the elements at the famous race with every twist and turn of the track.

© Konami

DOUBLE DRAGON



Skillful programming has taken the superb graphics and addictive game play of the monster Arcade hit and faithfully reproduced it in home computer versions.

Join in deadly combat with the savage street gang of the infamous Shadow Boss. Use whatever weapons come to hand as you pursue the gang through the slums, factories, and wooded outskirts of the city to reach the Black Warrior hideout, for the final confrontation with the Shadow Boss himself!

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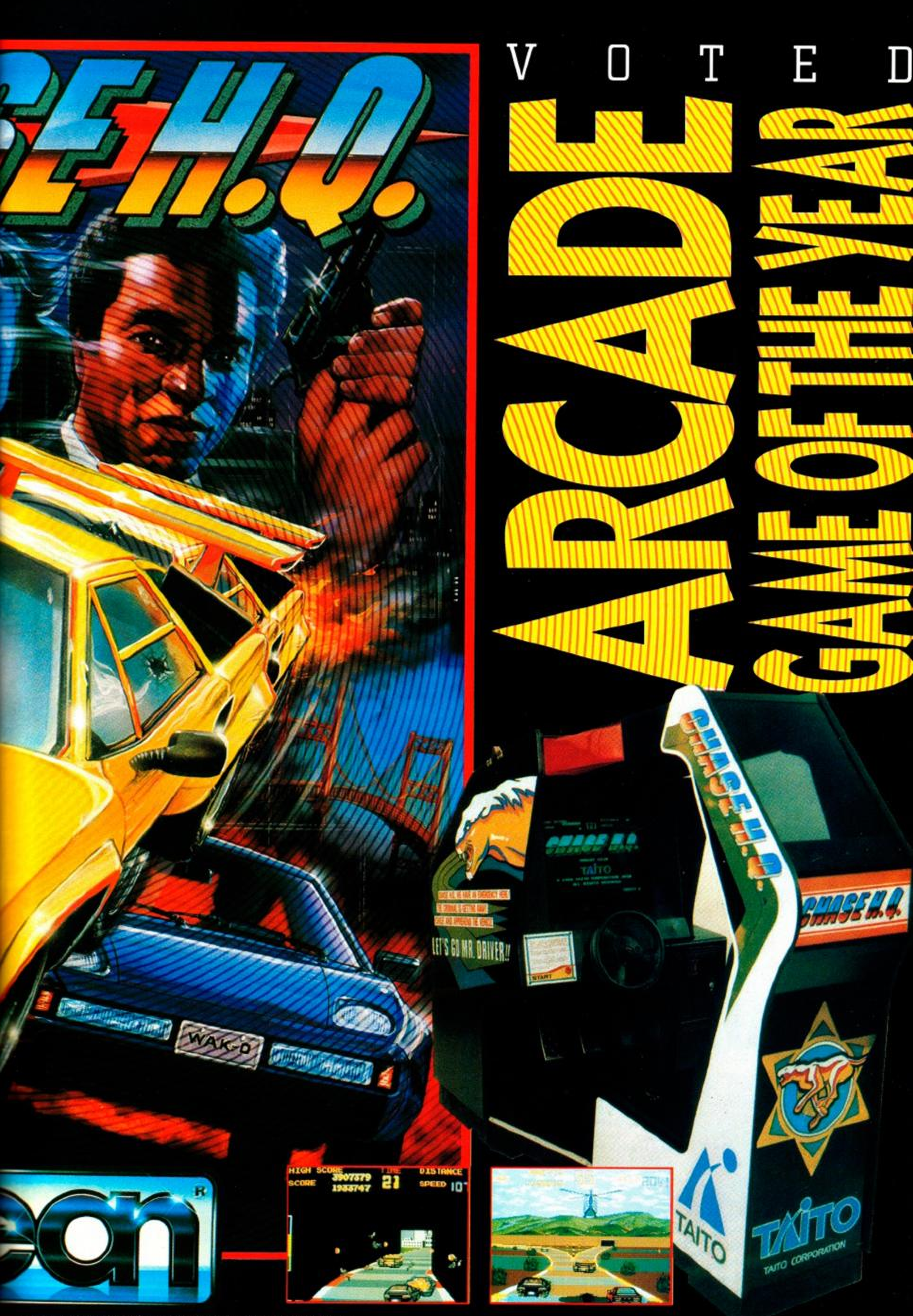


BARRELLING THROUGH THE CITY STREETS,

along the roughest of dirt tracks and through busy tunnels – if you can hold the line! The low life can run, but they can't hide ... **CHASE H.Q.**

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The *AA* Xmas Covertape

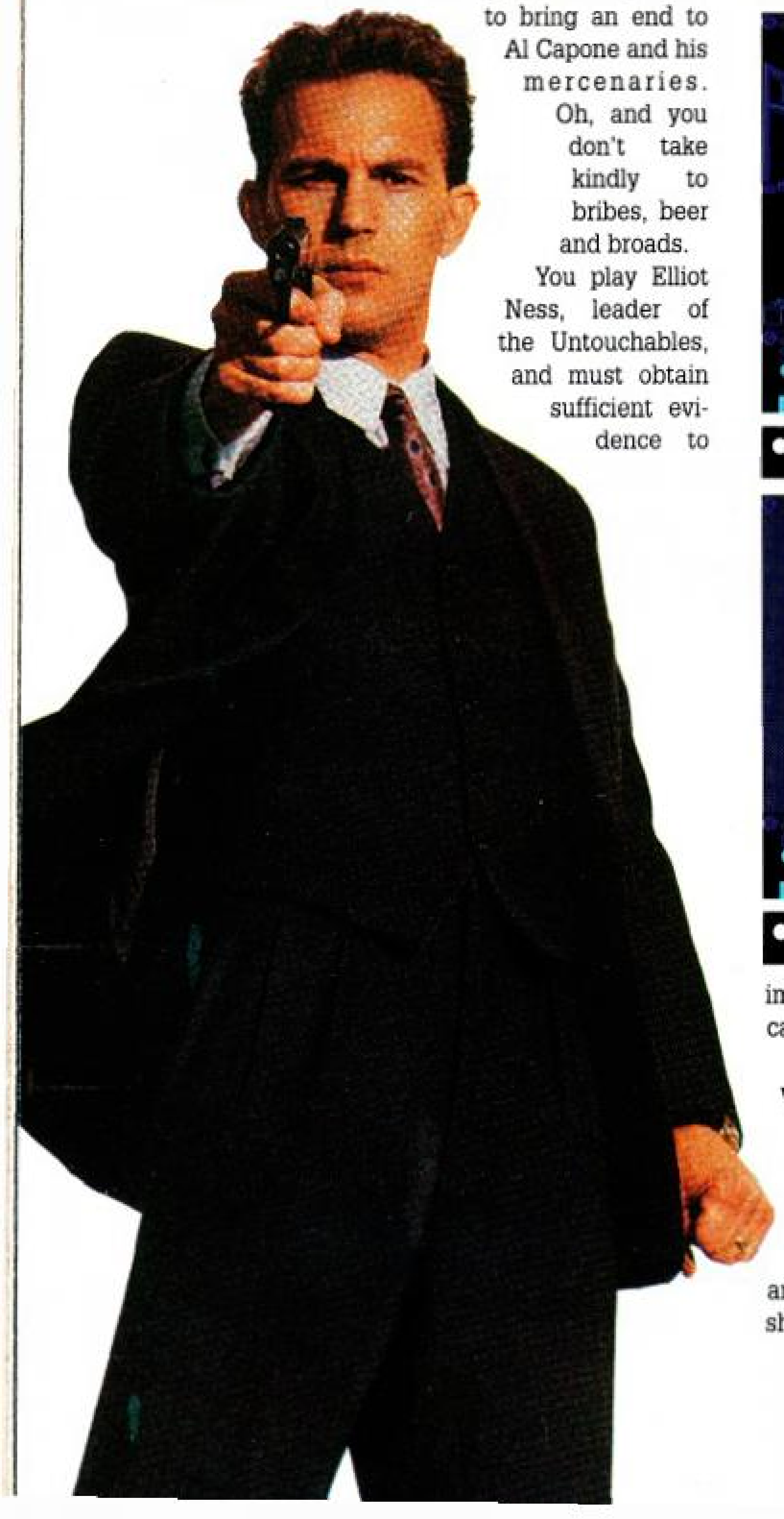
It's that time of year again when socks are getting nailed to walls and final demands are being written to Santa. Yes, Christmas is heading this way, and to help spread the cheer here's the sensational seasonal *AA* cover tape, crammed with goodies...

THE UNTOUCHABLES

BY: OCEAN
SIDE: 1
FILES: UNTOUCH.BAS, UNTOUCH.BIN, UNTOUCH.SND

"Dur... Hey, boss, looks like we gotta a good un here. Ya know we's gotta take a stroll round Chicago and put an end to that sucker Capone. Why, I'd like to fill him full o' lead..."

Back you go, to the heady days of prohibition. You're a G-man, a special breed of untouchable Government agent, whose job it is to bring an end to Al Capone and his mercenaries. Oh, and you don't take kindly to bribes, beer and broads.



You play Elliot Ness, leader of the Untouchables, and must obtain sufficient evidence to imprison the nefarious Al Capone. "Da, boss, can't I pump him with slugs?"



● A near miss, bits flying off the wall.



● Blast the baddies as they lean out.



● Hide behind the wall to reload.

The full game consists of six levels in which you have to uncover the evidence for Al Capone's conviction. "I'd much rather shoot him, boss – go on, gimme de chance."

Help Elliot Ness in his hour of need, save Chicago from that naughty gangster and his alcoholic plots – on seconds thoughts shoot Elliot and carry on bootlegging. "Hey, boss, ya's confusing me."

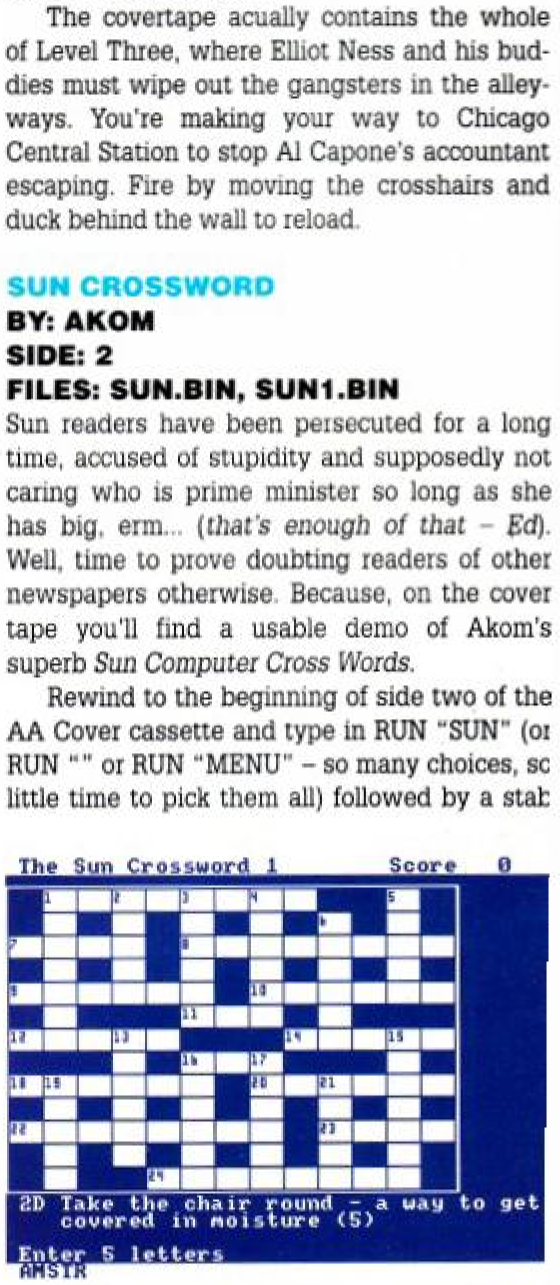
The covertape acually contains the whole of Level Three, where Elliot Ness and his buddies must wipe out the gangsters in the alleyways. You're making your way to Chicago Central Station to stop Al Capone's accountant escaping. Fire by moving the crosshairs and duck behind the wall to reload.

SUN CROSSWORD

BY: AKOM
SIDE: 2
FILES: SUN.BIN, SUN1.BIN

Sun readers have been persecuted for a long time, accused of stupidity and supposedly not caring who is prime minister so long as she has big, erm... (*that's enough of that – Ed*). Well, time to prove doubting readers of other newspapers otherwise. Because, on the cover tape you'll find a usable demo of Akom's superb *Sun Computer Cross Words*.

Rewind to the beginning of side two of the AA Cover cassette and type in RUN "SUN" (or RUN "" or RUN "MENU" – so many choices, so little time to pick them all) followed by a stab



● Go ahead then smart Alec – fill this one in.

at the Return button. Press 1 and hit Return when prompted for a crossword puzzle. The puzzle will load and you'll be set to play.

A crossword will appear on screen and a prompt will ask you for a clue number. Simply follow all the prompts and you won't go wrong. Extra clues are available (snigger) if you have trouble. Failing that, the solution can be called up. But you won't resort to that, will you?

GUNSLINGER

BY: DOMINIC WALSH
SIDE: 2
FILES: GUNSLING.BAS, DATA.BIN, CODE.BIN

Remember the good old days of Boot Hill? The wonderful arcade game in which you took on the role of a cowboy and had to shoot your opponent before he shot you? Now you can re-enact those days with Dominic's wonderful *Boot Hill* clone, *Gunslinger*.

The game is for two players, and each person controls the on-screen hombre by using the keyboard. The idea is simple – dodge your opponent's bullets while trying to blast bullets into his body. You have five lives – first one to zero loses. And now the key controls:



● Bang! Bang! You're dead. Fifty bullets in yer 'ead!

Player 1 (numeric keypad)	Player 2 (main keyboard)
5 – left	W – left
6 – right	E – right
4 – up	Q – up
1 – down	A – down
0 – fire	S – fire

You can find *Gunslinger* on side 2 of the cover cassette. Either rewind to around half way, type RUN "GUNSLING.BAS" and then press return or rewind to the beginning of side 2 and enter RUN "" (or RUN "MENU").

Don't worry if the character set looks a little strange when the game is loading – this is because *Gunslinger* uses most of the user-defined graphics and some letters become bits of cowboy or rock. To reset the graphics to normal you'll have to reset the computer when you've had enough of gunfighting.

WORD PROCESSOR

BY: CARL HARRISON
SIDE: 2
FILES: WP.BAS, READ.ME

Everyone has to write a letter at some stage – whether it's to an outer Mongolian pen pal or for a job application on *AA*. Doing the dirty



● Write your way out of this one, mate. Carl's word processor will get you out of any sticky situation.

with a typewriter is one way, but unless you're a proficient typist you'll end of with a letter that consists of more tippex than paper. Pen and paper is another; but if your hand writing is anything like Rod's, you're not safe to be let loose with a biro – believe me. Your only other alternative is to use a word processor. Unfortunately they don't come cheap – unless, of course, you have access to the *AA* cover tape.

Conveniently enough, there's a fabulous text editor on the cassette from Carl Harrison. It's written in BASIC, but don't that put you off as it is feature-packed, fast enough and very easy to use.

Just look at some of the features available: word and character counting; good printer support with 20 printer control codes including NLQ; 80 column editing; 26 colour palette for border, paper and pen; full cursor control; beginning of line, end of line, top of document and bottom of document with just two keystrokes; character conversion to upper or lower case; file merging; file encryption and decryption.

Run the word processor by rewinding to near the beginning of side 2 and typing in RUN "WP.BAS". Alternatively rewind to the beginning of side 2 and type RUN "" or RUN "MENU".

Following the word processor on the tape is a document called READ.ME – this contains full operating instructions. Run Carl's word processor and elect to load a document (option 3). Then view the text file by hitting the edit button (key 2 in the main menu). To return to the menu screen when editing a document press Control and M simultaneously.

TYPEWRITER

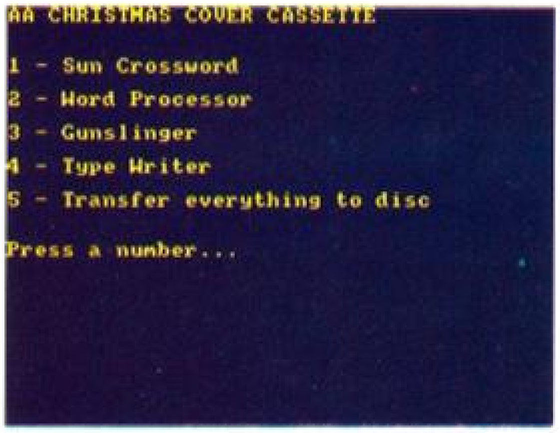
BY: PAT MACDONALD
SIDE: 1
FILES: TWRITER.BAS

Ex tech-ed Pat MacDonald created this nifty utility to help with the entry of programs from type-ins and cheat mode.

Typewriter intercepts the CPC whenever a carriage return is entered and calculates a checksum based on the contents of the line that you just typed. The checksum is printed on screen and you must compare it with the value printed in the magazine. If both are the same then the line is correct – if not check the typed in line and alter it as necessary. Your type-ins need never be wrong again! Cheers, Pat.

Get to roughly the half-way mark on side 2 of the cassette and enter RUN "TWRITER.BAS". Don't forget to press return. Alternatively rewind to the beginning of side 1 and type RUN "" or RUN "MENU".

Enter Y or N to the question "Am I a CPC 464" and then type NEW followed by Return when control comes back to you. Start entering a type-in. Each time you enter a line, a checksum will appear on the screen.



● Easy-start menu for Side 2.

TRANSFERRING TO DISK

There's a utility on the tape written, once again, by a former *AA* team member – Gary Barrett. Let's hear it for the former *AA* boys, boys. To copy all programs from tape to disk simply type RUN "" or RUN "MENU" when the cassette is wound to the beginning of either side. Pick the relevant option from the menu that eventually appears. Follow all prompts from there. Make sure you have a disk with plenty of free space before running the transfer utility. You wouldn't want to make Gary's program angry, now would you?

IT COULDN'T BE EASIER!

To load the *AA Xmas Covertape*, all you have to do is press [CTRL] [Small ENTER] as usual and a menu of options will duly appear. Simply press the number of the program you want, and it will load in automatically. To save time you can always fast-forward, but the right program will load even if you don't.

FAULTY TAPE?

If your cover tape doesn't load – and with such a huge duplication run as ours, there will unfortunately be a few which fail to work – return the faulty cassette to:

AA Cover Tape Returns, Interceptor Ltd, Mercury House, Calleva Park, Aldermaston, Berks RG7 4QW.

Interceptor will return a fully working version of the AA cover cassette as soon as possible.

Trenton promises to bin any duff *AA* cassettes returned to the *AA* offices. Make sure you send your faulty cassette to the right place.

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11. DIZZY
12. SUPER G-MAN
13. ATV SIM
14. GHOST HUNTERS
15. STREET FOOTBALL
16. JET BIKE SIM
17. SAS COMBAT
18. BIGFOOT
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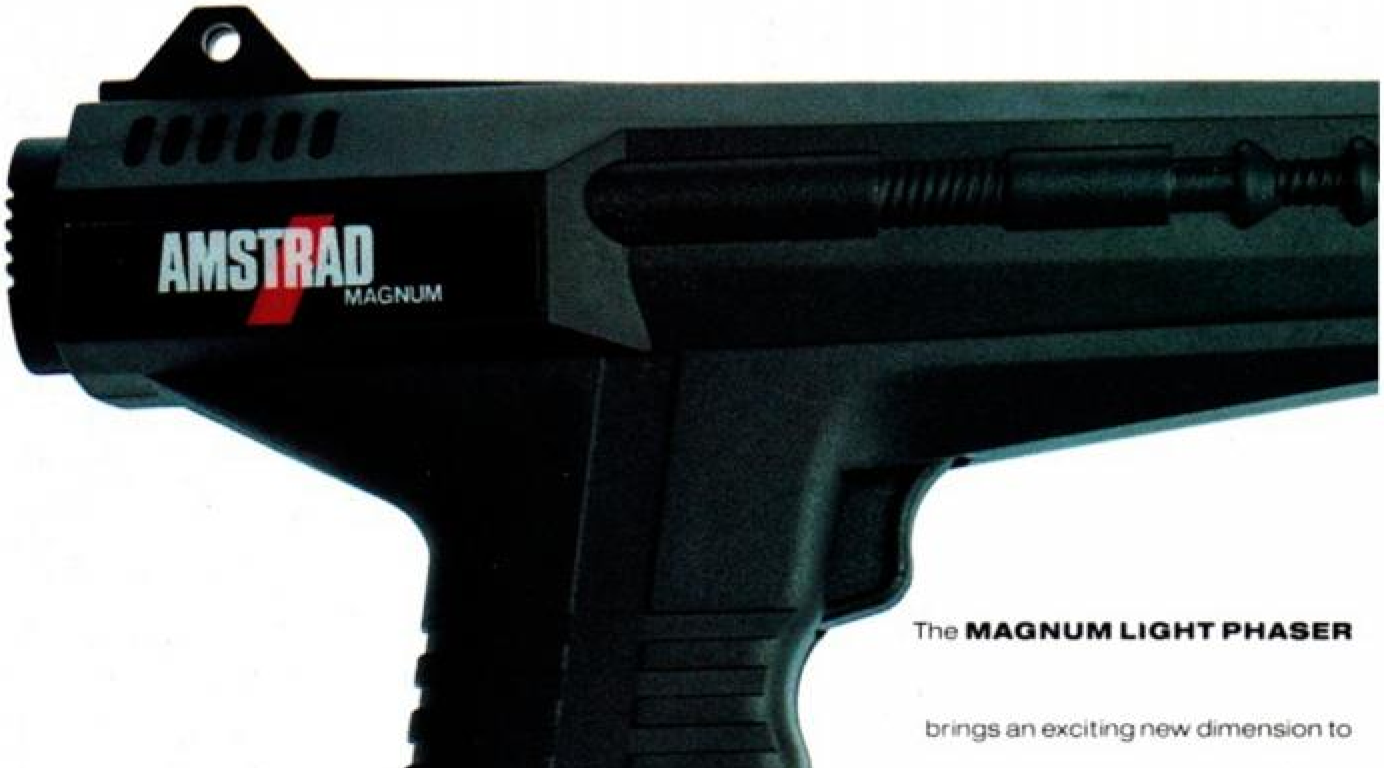
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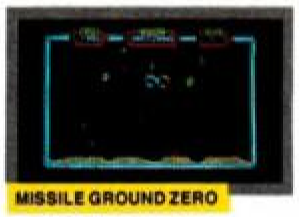
BULLSEYE



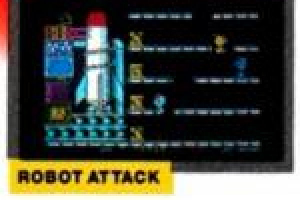
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Home suite home

ADAM (yuppie) WARING finds out why he's got behind on the Porsche repayments with SD Microsystems' *Home Executive Suite*...

HOME EXECUTIVE SUITE

£19.95 Disc + £1 p+p ● SD Microsystems, P.O. Box 24, Hitchin, Herts, SG4 0AE.

Home Executive Suite is a highly comprehensive package consisting of a personal ledger, a filer, a shopping selector (!) and mini calculator – plus a selection of desktop utilities. What's more, all its printer operations can be directed to print on personal organiser size sheets (available from SD Microsystems at £8.95 per 250).

If you spend money like water, and just don't know where it all goes each month, then the ledger may be just what you need. It produces a computerised record of all your incoming and outgoing cash in a specialised format for your personal use. It can handle credit cards and standing orders, making it a very powerful money managment system, with password protection to keep all your financial details away from prying eyes. The ledger is unquestionably the most powerful component of the package.

The filing index is a sort of electronic card box, of the type you can get in WH Smiths. The cards are pages of information inside the computer's memory, which can, however, be utilised far more effectively than the cardboard counterparts. Simple searches can be selected on any of the fields. If, for example, you had a filing system of all the games reviewed in *AA*, you could quite effortlessly make the computer find all the games that got *AA* raves. However, complex searches specifying several criteria, such as Raves from issues 36 to 48 released by Codemasters are simply out of the question with this mini-database. A great pity, as this omission mars an otherwise excellent program.

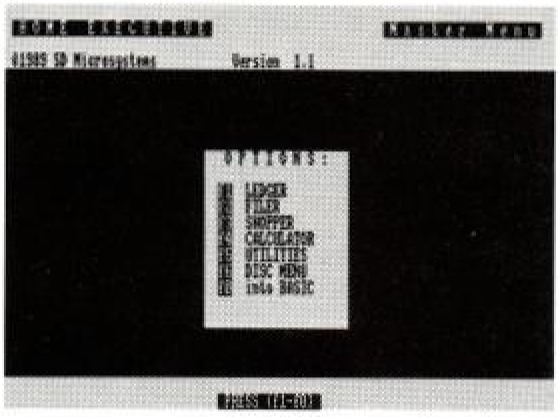
The shopping selector seems a pretty bizarre idea. Instead of jotting down a list of your weekly grocery needs, you simply select them via the on-screen cursor. The program then prints them out as a neat and legible list. The next sortie to Sainsbury's then has you safe in the knowledge that you won't forget your white sliced.

An on-screen calculator is the last of the big four options. It is a very simple version, offering only the basic add/subtract/multiply/divide functions found on elementry models. It is unlikely that it will be used much if you already have a pocket calculatir. If it was a drop-down feature that could be accessed from the other programs, then things might be different, but the hassle of loading it up for simple sums is just too great.

The mini programs falling under the ambigious heading of desktop utilities are actually more useful than the last two 'big' options. A label printer lets you print out neatly ordered labels, ideal for disk contents. And if you're financially-minded, then the depreciation and interest/repayments calculators allow you to work out how much your mortgage has gone up by since the last interest rate rise. The best of these utilities, though, are the Diary and Calendar. These are great for printing out onto standard personal organiser sheets, ready to be popped directly into your *Filofax*.

All the programs are easy to use, and the menus are mostly selected by means of the function key pad. The programs have a good consistent feel to them, but there is room for improvement in the disk system – you can catalogue the disk on-screen, but as soon as you press a key the catalogue disappears. It would be better if you could load a file with the catalogue on-screen at the same time.

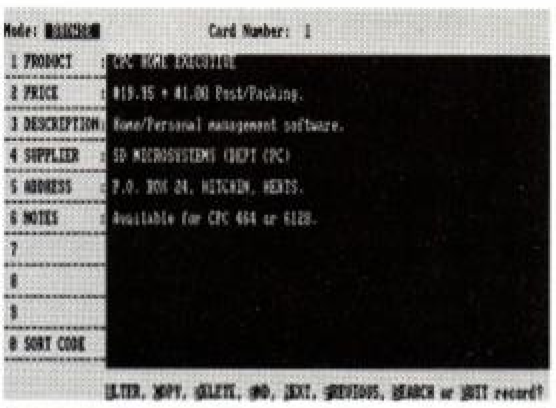
Home Executive Suite is a mixed bag. The ledger is very good indeed. The filer works well but could do with improved search capabilities. The shopper and calculator are unnecessary and useless. You certainly wouldn't go for *Home Executive* on the strength of one section alone, but if you're in need of both a ledger and filer then it may be just your cup of tea.



● *Home Exec*'s opening menu.



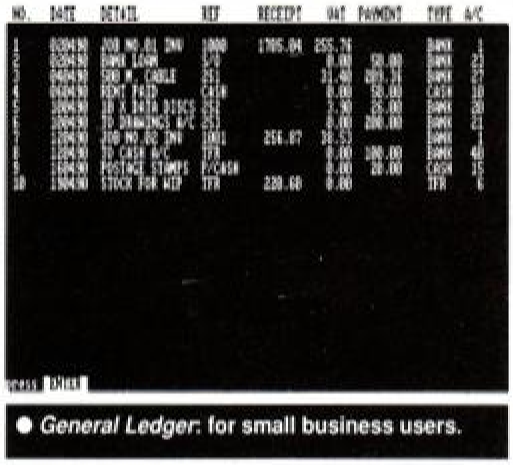
● Keep tabs on your finances with the ledger.



● Card filing – computerised.

GENERAL LEDGER

SD Microsystems also supplies a fully-fledged business ledger. Anyone who has experience of running a small business will know how important keeping records is – and what a headache it can be. *General Ledger* works in much the same way as the ledger in *Home Executive Suite*, but is greatly enhanced, offering creditor/debtor records and account handling. It will even work out your VAT for you. *General Ledger* costs £29.95 + £1



● *General Ledger*: for small business users.

GOOD NEWS

- **Well written.**
- **Can print out on *Filofax*-compatable sheets.**

BAD NEWS

- **Shopping list and calculator of dubious usefulness.**
- **Not as full-featured as it could have been.**

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Citizen MPS801	2477	D
Epson FX/LX-80	2273	B
Epson LX/GX-80	2454	B
Epson LQ-500	2477	D
Epson RX-80	2273	B
Epson EX-800	2774	D
Epson Full Width	2320	D
Juki 6100 Daisywheel M/S	2563	B
NEC Pinwriter P1/P2	2254	D
NEC P2200	2844	D
NEC P6+/P7+	2870	E
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Seikosha GP100	2317	B
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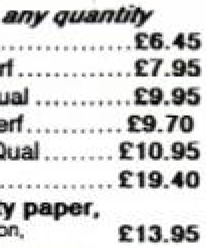
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Christmas Cracker

HACKIT

£34.99 ● Siren Software, 84-86 Princess Street, Manchester M1 6NG ☎ 061 228 1831

ADAM WARING, the man who is to machine-code what Arnold Schwarzenegger is to grape-crushing, checks out Siren Software's Hackit...

Hackit is not for wimps, lets make that clear from the start. You'll need to be a dedicated Z80 freak to use this device – a born hacker, no less, with the code in your blood. There's none of this 'user friendly' non-sense, you're in at HEX level, and if you don't like it you can lump it.

Neither is Hackit for the faint-hearted. You'll need a good working knowledge of machine code, a lot of perseverance, and the desire to crack into games to get those infinite lives. If you've got all that then you're hacker material and Hackit is the tool of your trade.

Hackit comes in the form of a plain white box, with a ribbon cable to plug it into the computer and an expansion port for connecting additional devices. By way of control, it also sports an on/off switch and the infamous red button. Multiface users will be familiar with the 'push the red button' system to initialise the unit, but unlike the Multiface – which is primarily a back-up device – Hackit is designed specifically for cracking the code. You can search for strings, disassemble code, and there's even a built in mini assembler to write patch routines.

It works by interrupting a reset and taking over control of the computer whenever one occurs. Pressing the red button causes such a reset, as does the Control Shift Escape combination, switching the computer on, and any machine calls to memory location 0.

When the button is pressed, the jump-blocks are reinitialised and the screen clears before Hackit takes over. This means that anything on screen will be lost, as will programs that use the area of code normally reserved for the jump blocks. A copyright message appears at the top of the screen, and a > prompt awaits your first commands.

The first thing you're likely to want to do is search for some code, and the Memory command shows a schematic diagram of the memory map. Code is usually distinguishable by being in solid blocks, rather than data, which tends to look more 'patchy'. Once you know where to look you can search for some text or a sequence of instructions. Strings to search for can be either in HEX or ASCII, and the unit will scour the memory looking for a match.

Change to Edit and you are presented with a HEX and ASCII dump. Here you can alter data at byte level. If you want to check out the machine instructions in more detail, then enter the Disassemble mode and the code will be converted into Z80 mnemonics which whiz up the screen at an alarming rate. The disassembler even has a dump to disk/tape option, so you can reload the hacked code into an assembler for some real heavy duty hacking.

When you've found the bit of code you want to alter then you can either go back into the Edit mode to make the alterations in HEX, or use the Assem instruction, which puts you into the line assembler. Finally, you can Save your changed code and Call it for testing.

Hackit naturally has many more features than those explained above. You can move memory about, output to ports, read program headers and do a multitude of other hacking-orientated operations.

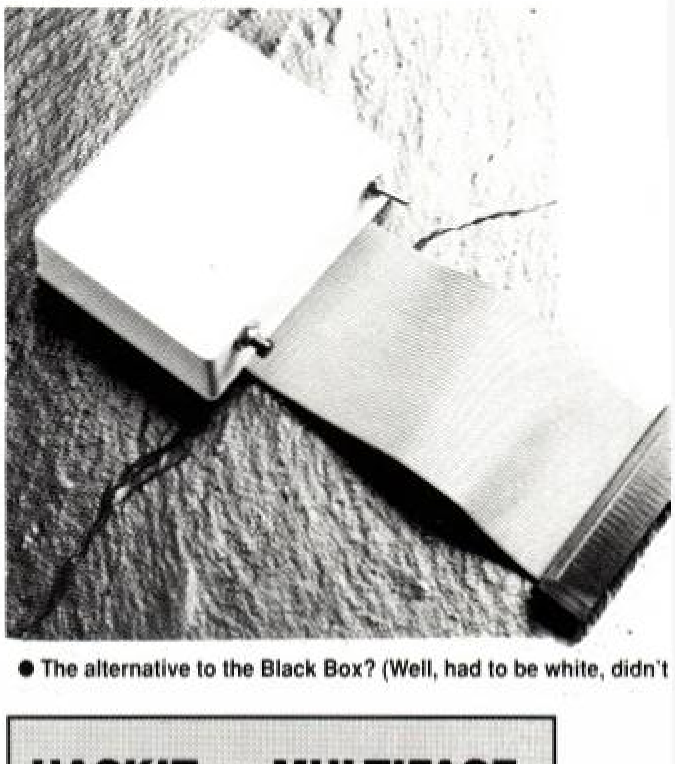
So is Hackit just another tool for pirates? Far from it. The device has highly legitimate uses for programmers. Whenever the machine crashes or locks up, simply press the button and you can examine the memory to see what went wrong.

It is a pity that Hackit automatically initialises the jump blocks, though, as this is likely to wipe out code in several programs that would otherwise lend themselves to a good hack. It would be preferable if the memory was left in the exact state it was when the button was pressed, à la Multiface.

Nevertheless, if you've been reading Phil Howard's *Insider Dealing* series, and fancy having a go yourself, then Hackit is by far the simplest way to get into it.

WIN A T-SHIRT!

Siren Software, bless its little cotton socks, is giving away ten T-shirts to AA readers. Just to see how on-the-ball you all are, they're going to the first ten postcards marked IF IT'S FREE I WANT ONE and sent to AA at the usual address...



● The alternative to the Black Box? (Well, had to be white, didn't

YOU'RE NICKED!

Just about everyone out there must have worked out by now that piracy is illegal. But what about devices that make piracy possible? Romantic Robot's Multiface seemed to fall foul of the recently-published Copyright Designs and Patents Act, in that it was a device enabling users to make illegal copies of copyrighted software. But Multiface does have bona fide purposes too, that's why it's still on sale.

Hackit is not such an effective copier as Multiface. It does let you break easily into code, and so – technically – it let pirates attempt to circumvent copy protection routines. But then any experienced coder could do that anyway.

We spoke to Bob Hay of FAST. "From what you tell me," he said, "the device is not dedicated to copying software and so is unlikely to breach current legislation."

And if somebody uses it to break into programs and disable copy protection to produce copies? "Piracy is illegal, and those caught distributing pirated software will be prosecuted."

But what about people just making a few copies for their friends? "That, too, is illegal."

You have been warned.

HACKIT vs MULTIFACE

Hackit is not designed for copying programs. It is designed purely for hacking into them, examining and altering code. By its very nature it can only be used by those competent in machine code, and so is not suitable for those requiring a back-up utility.

Multiface, on the other hand, is designed for making back-up copies of programs and is especially useful for those who buy games on tape but would like to load them from disk. It has some limited hacking ability, but only allows you to examine a bytes in HEX, with a rather slow update window, making it laborious to use.

GOOD NEWS	BAD NEWS
■ **Powerful commands for the dedicated hacker.**	■ **User-unfriendly for the novice.** ■ **Doesn't leave all memory intact.**

Art for art's sake

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ART THE EASY WAY

£5.95 cassette £8.95 disk ● John Packham, 60 Highton Towers, Warburton Road, Southampton, Hants SO2 6HH.

The snappily-titled *Art The Easy Way* makes no claim to being the best art package that money can buy. Instead, it is intended to be cheap and easy to use. Well, it certainly succeeds on the first point – at £5.95 for the tape version it must be the cheapest art package around. But price isn't everything – it must be usable as well.

Upon loading you are presented with a screenful of options. The package is surprisingly well equipped for its price. It can handle patterned fills, boxes, circles, rays – in fact many of the features that you'd expect to find on art programs costing several times as much.

Select an option and the screen clears, bringing you into the drawing mode. The joystick (or cursor key pad) moves a rather flickery crosshair around the screen. When you reach the place where you want to use your selected drawing tool you press fire (or Copy) to start, and the Space bar to stop. Pressing Tab gets you back to the main menu.

A number of useful features are available via single keystrokes from the drawing mode. The current pen colour can be changed by pressing P, and an area can be pattern-filled with S. This is a most welcome way of doing things, much better than having to shoot off to sub-menus and fiddle about with icons (which are more of a hindrance than a help if you don't have a mouse) just to change the pen colour.

Against this, though, the program doesn't have the same kind of flow as a package like *Art Studio*. Using the keyboard in conjunction with the joystick is fine, but having to press Space to finish using each function is annoying. You should be able to both start and stop the functions with the same key. Worse than this is the way the freehand drawing and spray-can options work. For instance, after selecting the spray can, and pressing fire to switch it on, it remains on, spraying out paint until switched off with the space bar. You need far greater control over a tool like this. You should be able to add a burst of spray onto the picture by tapping fire, the paint only being applied when the button is pressed. This selection method is very frustrating and really is the major gripe.

The other minus point is the speed of the program. The cursor plods across the screen quite slowly, and when you have the Zoom mode selected it turns into an agonising crawl. Most other art utilities overcome this by having the cursor speed up after a second or two, it's a pity that it has been overlooked on this program.

All in all, apart from a couple of niggles, *Art The Easy Way* does what it sets out to do fairly well. It is generally easy to use, and the criticism singles out annoying, rather than unbearable, aspects of the program. The good points outweigh the bad, and for the price it is certainly to be recommended.

'Ow much?

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CRL Image System	£24.95	£19.95
Art The Easy Way	£8.95	£5.95

You get what you pay for. Higher-priced art packages are easier and quicker to use, and offer better results. But *Art The Easy Way* is a great bargain for the beginner.

GOOD NEWS	BAD NEWS
■ Cheap and easy to use.	■ Can be slow.
■ Offers a multitude of features.	■ Selection of some features not well implemented.



● A load of spheres from Adam.
● And here's one we prepared earlier. (OK, well, it wasn't us, exactly...)





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Mastering MIDI

Money no object? We hope not, as it's time to choose that MIDI synthesiser. JAMES PINTO bites the bullet and starts counting out the folding stuff...

Let's get one thing straight from the start. Decent MIDI synthesisers aren't cheap. If you're serious about MIDI and you want gear that'll really do the business, you're talking about hundreds, not tens, of pounds.

To be realistic, I'll set the price limit for this guide at £1,700. This is because anyone willing to spend more than this on a keyboard is either (a) Totally mad or (b) a professional musician, and I assume that the majority of AA readers are NOT professional musicians. (Or mad either, I hasten to add!)



● Yamaha DX7II: fine if you have a friendly bank manager!

● Yamaha DX7

This has got to be by far the most popular synth of the past six years. Introduced in 1983, it took the music world by storm. The DX7s are best known for their ability to produce superb bass sounds. Compared to the synths of today, though, the sounds produced by the first DX7 are a bit dated.

Then, about three years ago, Yamaha brought out the DX7II. This is a vast improvement on the original and – like the first DX7 – it has become the workhorse of the music business. The DX7II is 16-note polyphonic (16 notes can be played at once) and 8-voice multi-timbral (which means 8 sounds can be played at once via MIDI). It also has a touch-sensitive keyboard and (on the DX7IIFD) a 3.5-inch disk drive. You can pick up the old DX7 in music shops for about £400 or less but you may have to shop around. The DX7II can be bought for about £1,600. Expensive, but a valuable tool if you have the money.

● Yamaha DX11

When the DX100, DX27 and DX21 were discontinued in 1987, the DX11 was designed to replace all three. The DX11 brings you quality FM sounds at a reasonable price. It's *the* keyboard for cheap home recording.

If you want the complete system to accompany your CPC and MIDI interface, you can purchase the DX11, a pair of KS15 monitor speakers and the RX120 digital drum machine all for under £1,200. This is definitely a good package to go for.

The DX11 is a good keyboard on its own, boasting a five-octave keyboard, 8-voice multi-timbrality, 128 sounds and velocity-sensitive keyboard. But combine it with the above items and you have the best home recording system for the price. If you have the money, and you want to record from home using your CPC, get the DX11 system. You won't be disappointed.

Contact Yamaha-Kemble Music (UK) Ltd, Mount Avenue, Bletchley, Milton Keynes, MK1 1JE or phone 0908 71771.

● Roland D-10 & D-20

The main differences between these two keyboards are that the D-20 has a 3.5-inch disk drive and a 9-track sequencer built-in. Apart from that, these keyboards are identical.

Both keyboards are Multi-Timbral and have a built-in programmable drum machine which utilises the 63 preset rhythm sounds. All these sounds are sampled from real drums and therefore sound identical to the real thing.

The D-20 and D-10 allow the user to create sounds using a technique called LA synthesis. Putting it simply, you can either build up sounds using standard waveforms (pulse, square, sawtooth etc) or use the 256 sampled waveforms. These can be combined with the standard synthesizer waveforms to create realistic sounds. The advantage of this method is that as well as creating superb original sounds, you can faithfully reproduce the sounds of acoustic instruments such as harpsichords, pan pipes, and even the human voice!

Both keyboards also have a rhythm programmer which enables you to write your own drum patterns entering the sounds using the velocity-sensitive keyboard (the harder you hit the keys, the louder the sound gets) and save your pattern to either a memory card or, on the D-20, to disk.

Another advantage of these two synths is that they have built-in digital reverbs. These are Room, Hall, Plate, Tapped and Delay 1, 2, 3, a great bonus, which helps to make the keyboard sound much more professional compared to the 'dry' sound of non-reverb synths.

The D-20, with its disk drive and sequencer, might seem more appealing than the D-10, but your CPC is, with the aid of an 8-track sequencer (such as DHCP's, EMR's *Miditrack Performer* or Foundation's *Step Time Sequencer*) quite capable of carrying out these tasks. And remember that you are paying about £300 more for the D-20. My advice would be to purchase the D-10 and use your CPC as the disk drive and sequencer. All you



● Roland D-20: 3.5-inch disk drive and 9-track sequencer built-in.

need to add to this list is a memory card (either M-256D or M-128D) to store any sounds or rhythm patterns that you create to make an excellent package for home recording.

The music you produce using this set-up, in all honesty, will sound much more professional than the DX11 simply because of the superior sound quality of the D-series from Roland. The D-10 will cost you around £780, whilst the D-20 sells for around £1,000.

TRUE STORY

The music shop manager was absolutely insistent, a picture of injured innocence. "Oh yes, I'm sure sir. The list price on that particular keyboard has been raised... Well, in effect, yes I suppose the price has gone up £300... But it's the new list price, sir..."

His voice trailed off as he realised he'd lost a sale. I left chuckling, knowing for a fact that this was being economical with the truth on a grand scale. I bought my equipment elsewhere, and I haven't been back. Perhaps he's still there, getting away with this shameful trick.

It is vital to decide at first how much you're willing to pay for your MIDI equipment. Shop around. So often you can go into a music shop and see a keyboard at one price and then walk into a different shop and see the same keyboard for £200 less! Be on your guard at all times. Try to use the prices in this article as a guide. They are as accurate as possible. Whatever happens, don't pay more than what I quote for any keyboard. Good luck, and beware the silver tongue of the smiling synthesizer shop salesman!



● Roland D10: capable and reasonably cheap.

● Roland D-50

The D-50 is the big brother of the D-10/20. Many groups use it on stage together with a Yamaha DX7. Since its launch in late 1987, the D-50 has fast become the new "workhorse" of the industry, taking over where the DX7 left off.

The D-50 uses LA synthesis to create sounds, producing similar sounds to the D-10/20 but to an even higher standard. The D-50 is equipped with a 61-key, Velocity, Pressure and Aftertouch-sensitive keyboard. There are also four key modes: Whole, Split, Dual and Separate. Whole allows you to play one sound across the whole keyboard. Split allows you to set a split point and play two different sounds, one on either side of the split point. (You could have a bass in the lower part and a brass sound in the upper part.) Useful on stage. Dual allows you to play two sounds at once across the keyboard range, providing some interesting possibilities. Finally, Separate allows the user to set upper and lower sounds to separate MIDI channels.

The D-50 is an excellent instrument and I would recommend it to anyone – but at £1,300, unless you are really serious about entering the music business, or you have plenty of spare cash, it's not really worth shelling out for.

Contact Roland (UK) Ltd, Amalgamated Drive, West Cross Centre, Brentford, Middlesex TW8 9EZ or phone 01-568 4578.

● Korg M1

At the moment this is by far the best keyboard available in the £800-£1,700 price range. The sounds produced by the M1 are astoundingly lifelike, enhanced by a choice of 33 digital effects! These include all types of reverb, echo, delay and many others.

The M1 uses AI synthesis to create sounds. This works along the same principal as Roland's LA synthesis in that you can combine the M1's built in samples with synthesiser waveforms to create sounds.

You can also combine attack transients with synth waves. For example, if you were creating a guitar sound and you wanted to make the sound of the pick hitting the string, you would have problems as this is particularly difficult to synthesize, but on the M1 you just choose the right attack sample from the M1's two megaword (4 megabytes) ROM memory – in this case "Pluck" – and combine it with a digital waveform to produce the sound.

The M1's memory also contains 44 drum and percussion sounds and 100 multisamples, and unlike other synthesisers you can load more samples in using memory cards.

In addition, the M1 contains a drum sequencer and 8-track real-time/step-time sequencer. There really is nothing like it at this price and for £1,000 you are getting sounds of a standard produced by machines costing ten times as much.

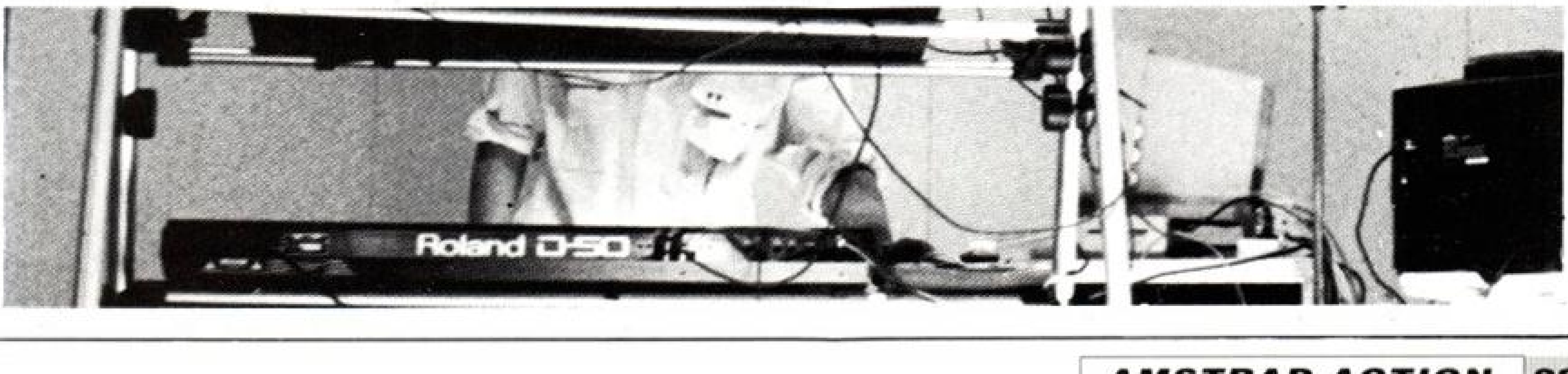
This is my favourite keyboard, simply because it can do everything you want it to do, and is highly recommended. Price £1,100 or less.

Contact Korg (UK), 8-9 The Crystal Centre, Elmgrove Road, Harrow, Middlesex HA1 2YP or phone 01-427 5377

NEXT MONTH: The *AA* Guide to Samplers



●The M1: super sound quality at a super price.



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CPC 464 with colour monitor, disc drive, memory expansion, DMP2000 printer, joystick, software (tape and disc), books, including firmware manual, £500 the lot. Phone Mr Sinclair 0334 870 639. 10 Park View, Balmullo, Fife.

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CPC6128 with colour monitor and television tuner, also joystick, tape recorder and lots of software on tapes and discs including Carrier Command, Robocop. £300 consider, close offers. Phone 0304 362950.

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WANTED

DK Silicon disk or 2nd disk drive for 6128. Phone 061 427 1424 evening only.

Soft 968 firmware manual. Will pay good price. Contact Neil Gray, 251 North Anderson Drive, Aberdeen AB2 5HR or phone Aberdeen 0224 690819.

Epson-compatible printer, must be in good condition will pay £70. Phone 0305 848879.

Colour monitor for Amstrad 6128. Phone Martin 0708 862454.

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OTHER

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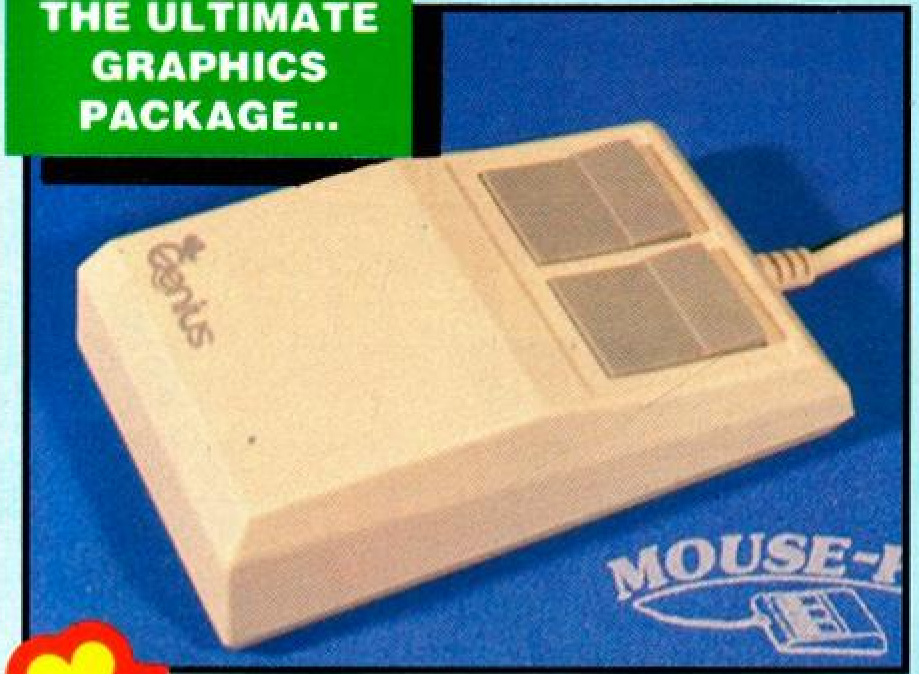
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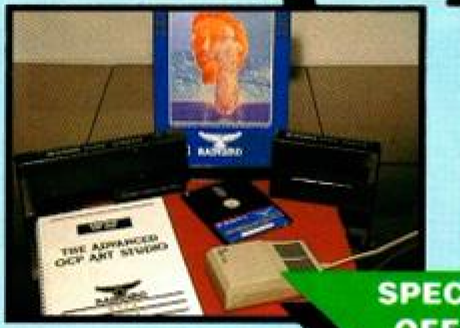
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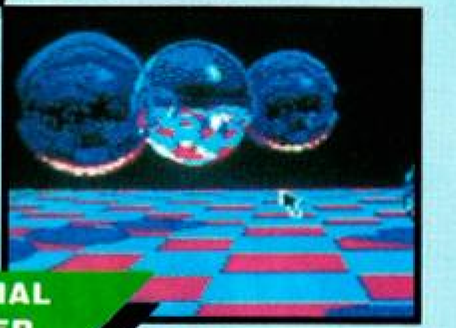
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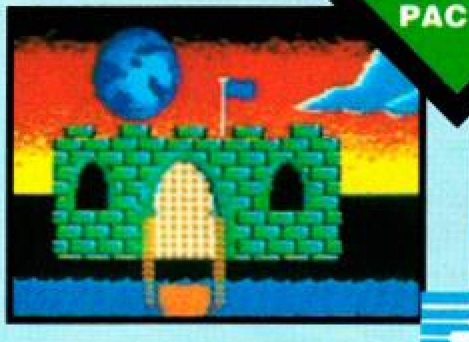
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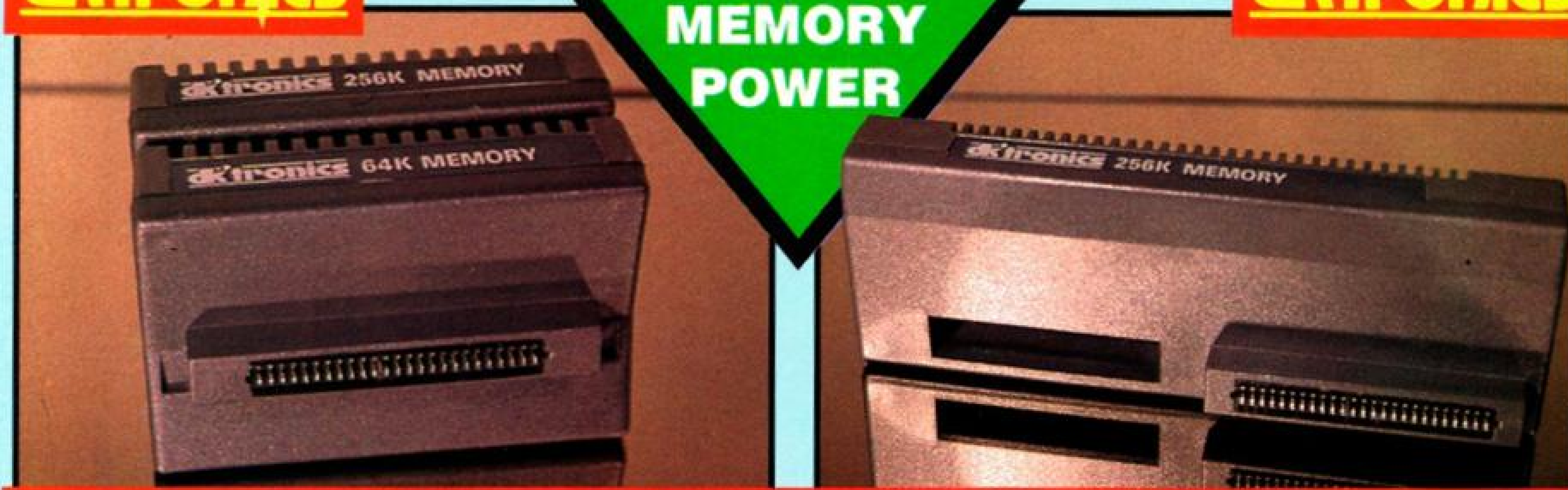
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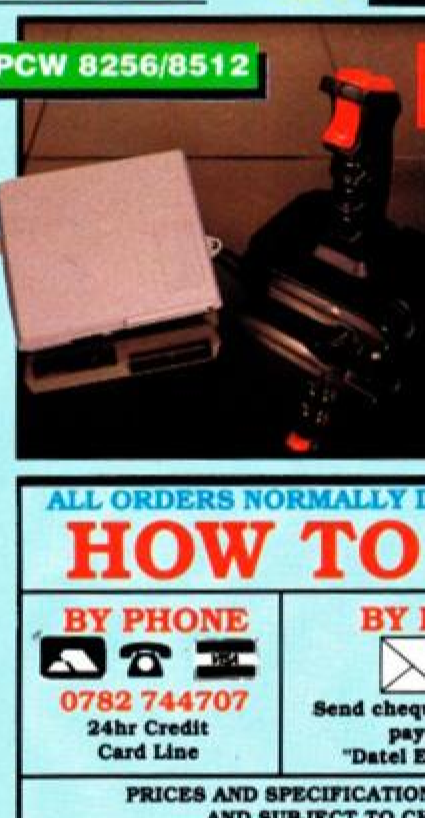


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CD Revolution!

Budget software house Codemasters isn't the sort of company you'd normally associate with earth-shattering innovation. But with their CD-based Games Pack, the Darlings have rocked the industry. ROD LAWTON talks to director David Darling, while ADAM WARING brings you the technical details...

The Codemasters team works from a converted farm near Leamington Spa. We were shown through the bustling offices to David Darling's inner santum. "Hold all calls", he told the receptionists, then settled back in his chair, smiling as he waited for *AA*'s barrage of questions...

David, it seems incredible to offer the CD Games Pack for £20. On the basis of the software alone, those games are going for about 66p each! Will you make any money? Will it harm sales of the games individually?

We won't make as much as we hoped, to be honest! When we first thought of it we just thought it was a brilliant idea and did the costings very roughly. But it has cost us a lot more than we thought it would. We'll definitely make a profit but we won't make an amazing profit. But I think it's very good for our reputation and very good for the company. As for the CD affecting sales of the individual games, we obviously considered that seriously – we have a substantial percentage of the individual, singles market. We also had the choice of selling the at £29.99 or £19.99, but we thought the lower price was the much, much more attractive one, and at that price it could be the Christmas Number One.

Really? Number One?

There are some very, very good games on there. It's exciting because it's on CD, which is new, and on the Amstrad it's the first time it's been done. And the loading times are so fast. It's a way of upgrading your machine without chucking it in the bin and buying an Amiga! If you can do it at that price and then keep advertising it, you can keep selling it for months because it's such good value. Rather than if it's £29.99, when it's more of just a gift, and it's only going to be successful at Christmas.

So when did you first have the idea of doing a CD compilation?

Back in February.

There's obviously been quite a lot of planning and research, then.

Yes. Richard [Darling] went to Taiwan to organise it all – and to organise some other things, but that's still secret!

I suppose, as well, that if you plan to do future releases along the same line, then by doing it at £20 you give yourself a much larger user base right from the start?

Yes, because we can get loads and loads of cables



● David Darling: "This is just the tip of the iceberg."

out there and then sell the special CD games to those people at a cheaper price because they've already got the cables. Coming back to the games, we thought that if somebody buys the compact disk then they get all of the games so they obviously won't buy those games themselves individually, but they're bound to show it to their friends. They'll show people *Treasure Island Dizzy*, *Twin Turbo*, *BMX* and so on – games that they may not have seen before, and if they're really impressed with them then they'll go out and buy them individually, assuming they can't afford to buy the CD. So it could help to promote the games just as much as detract from individual sales.

What about the CPC specifically? How is the Amstrad doing as far as you're concerned?

We sell more games on the Spectrum, but we sell nearly as many on the Amstrad. I think that's because we've built up quite a reputation on the Amstrad with the Oliver Twins and Peter Williamson. A lot of our big games are actually developed on the Amstrad.

So do you have any Amstrad-secific projects in mind – say a bigger game using the CD?

We've done tests, we know it's definitely possible, but it's just purely a matter of spending three or four months developing the software and using the advantages of the CD – the speed and the storage – to do things which just haven't been possible before. People are always saying things like "how do you come up with the ideas", and "how do you make

THE LITTLE DARLINGS

Codemasters was born three years ago in late 1986, set up by brothers David and Richard Darling and their father Jim. The Darlings originated from Canada, but moved over here when they were teenagers. They started programming on a Vic 20, the predecessor to the Commodore 64, writing games in their spare time. The brothers' early games were sold through small ads in the back of magazines under the name of Galactic Software, while they were still at school.

They were soon commissioned to write games for the larger software house such as Mastertronic, but eventually found that they wanted to sell the games for themselves again. They had by now left school and so could devote their full attention to the running of the new software house.

Codemasters was an instant success. It quickly established a reputation as a high quality budget software producer, and the company grew to become one of the top computer games software houses in Britain, selling more games – in the process – than anyone else.

Although their backround was in programming, the Darlings soon became marketing experts. They attracted some of the best programmers around – The Oliver Twins, Peter Williamson, Adam Waring – who helped keep them at the top of the charts.

The *CD Games Pack* is their first venture into hardware, but according to the Darlings is only the tip of the iceberg. Looking at the company's progress so far, we're inclined to believe them...



● Kids' stuff – Richard and David Darling back in 1987, already bosses of a top software house.

them different?" And to an extent it's impossible. When a computer's been around for years and years, and it's got hardware limitations, it's impossible to come up with something which really is new and innovative. But then when you've got mass storage and speed as well, then it's bound to give us advantages which we didn't have before. So I think the software will undoubtedly be quite startling! But no, we haven't designed anything as yet.

Would it be difficult to write a game that large and still sell it as a budget game?
Well you spend three or four months writing budget games anyway, and with mass storage you're not going to use it all on code. Obviously the majority's going to be graphics and sound. So, for instance, you could have a game which had the same amount of coding but full-screen animation, digitised from a movie or something, and then pretty realistic high-resolution sound samples on disc. And that doesn't take that much time to develop. It's just a matter of doing a deal with somebody who owns the rights to a movie.

We've seen interactive CD and laser disk games in the past – what about those?
I think we'll use something half way in between. You can select tracks quite quickly on a CD, so if it was some sort of adventure it could tell you, for example, to go to room 42, and it would only let you access the data if you'd solved some puzzle. So you could have a game like *Treasure Island Dizzy* with incredible graphics and sound but the same kind of gameplay, because you can load lots of data quickly.

So your system is almost like a CD-ROM, except that you have to have person pressing the buttons rather than a computer the CD player?
Yes. And on most CD players you can select tracks very quickly.

Presumably, you couldn't possibly construct something like a real CD-ROM because you can't run domestic CD players from a computer. And how do you get round the fact there are so many different models out there?
Well Rainbow Arts, with their CD release, have gone through the phono jacks at the back, but we decided not to do that because there are an awful lot of CD players out there which don't have phono jacks. And with the stacking system, some of them are hard-wired, some have got different plugs, and so on. That's why we went into the ear-jack.

Which every CD player has got?
Yes.

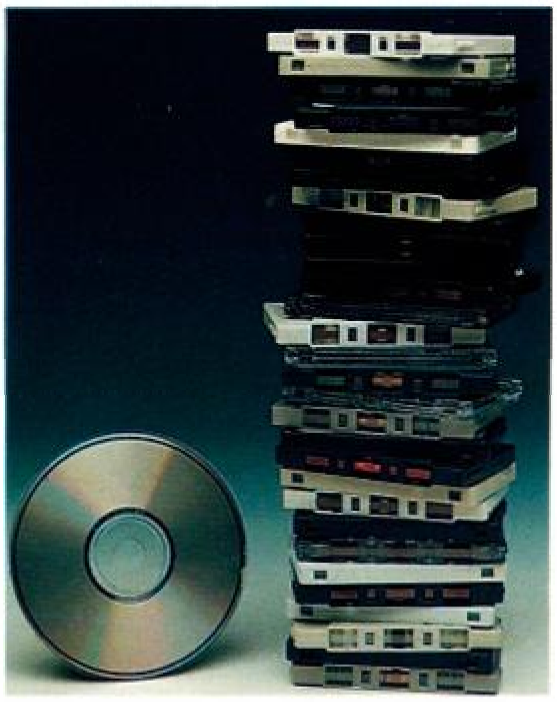
But how many people do you think have both a compact disk player and a CPC?
We've done a few competitions for winning an Amiga, and on the first one we had over 7,000 replies. Out of that we did a survey on how many people who've got computers have got CD players, and it's between 30 and 40%. So although we're only aiming at 30 or 40% of the whole market we normally aim at, there's really only one product in that market, whereas when we launch a game we're competing with maybe 500 others. So we've got hold of a third of the market – if you think of it that way, it's huge.

Do you think parents are going to let kids use the CD player in the lounge?
Well, when did the survey, that was the question we asked – it was something that we worried about. And we were quite surprised, because parents didn't really seem to mind. A lot of them had bought CDs so that the whole family could play music. And the big Japanese manufacturers always try and promote CD as not only offering superior sound quality, but as something that anybody can use. And the people that we asked were quite happy about their kids using it. They let them use it for music anyway – it's something they're already happy with.

But don't most kids keep their CPCs up in their bedrooms?
Well they'll have to move either the CD player or the computer. I think they'll probably usually move the computer. And the cable's over six feet long.

The story is that you've spent £22,000 on leads already. That's quite an outlay.
Well when you deal with Taiwanese companies as we did you have to pay at least half up front. When you order something they'll say we'll get it to you at this amazing price in this amazing time but we want our money now. It's good because it's a good price, but with most Western countries you get 30 days or 60 days or 90 days.

So it's obviously much cheaper to use a Taiwanese company?
Yes. It's just the way the whole country works – just like one big business. The government sends round leaflets about all the different companies, selling the different industries. And the companies are just really, really commercial. It's not that they use slave labour or anything, it's just that the businesses are so efficient.



● Which would you rather have, a teetering pile of rattly old cassettes – or a single, wafer-thin CD?

But aren't CDs expensive?
Well now we can get them for 90p each – including cases! I'm not sure, but I think CDs were over £2 not so long ago.

And presumably it's much easier to get people to duplicate CDs now. Is there a minimum duplication run?
Yes, well first of all you've got to get the disc pre-mastered, where they take all of the data and put it a form that the compact disc player can understand. Before and after the game they'll put all sorts of codes which mean 'this is track 1' and that the counter should count down rather than up. And there's all sorts of control codes – they're called PQ codes. You do all that and then take it to a CD manufacturer on DAT – Digital Audio Tape – and they use that to make the compact disc. You pay for the pre-mastering, and you pay for the mastering as well. You don't have to commit yourself to hundreds of thousands of discs. It's only a few thousand. I think it's 10,000.

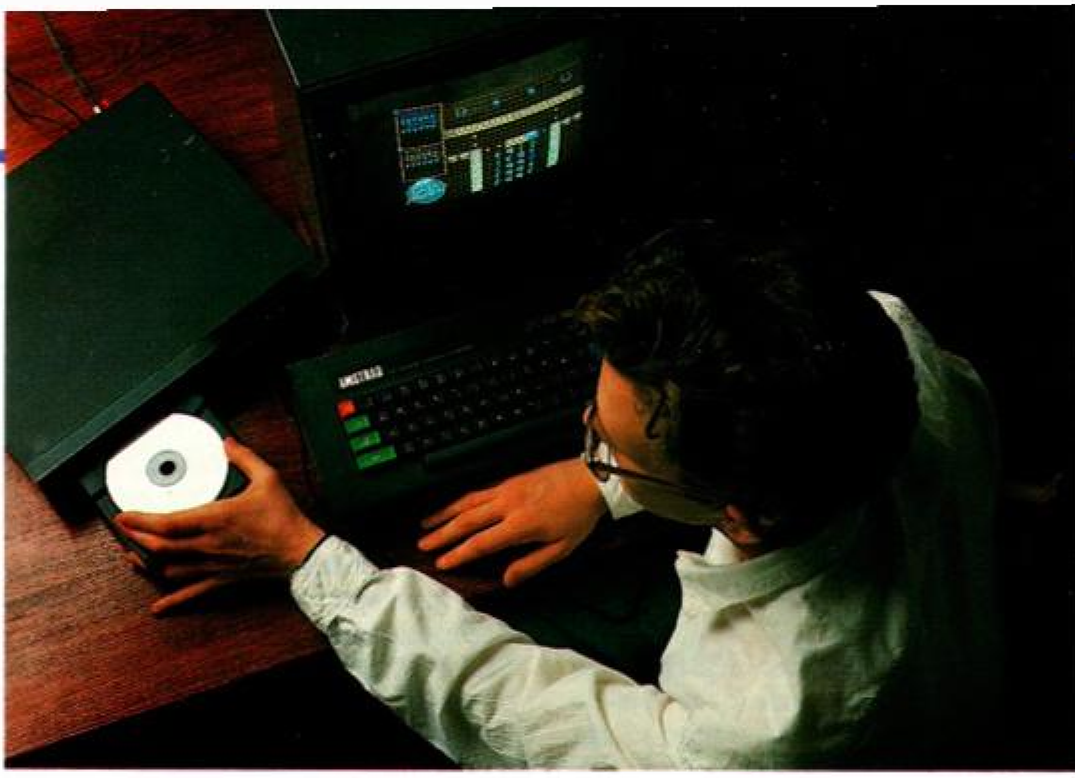
How many Games Packs do you think you'll sell over Christmas?
I don't know. It's a big decision because, as I've said, we've already spent £22,000, and I think we've only got 10,000 cables coming. And then we've got another 10,000, and another 10,000. The amount of interest in it we've had so far is amazing – it looks like we're just going to sell out immediately. Then we'll have to order more cables, which is the first time we've had that problem because with tapes you can get them duplicated in virtually any quantity virtually instantly.

The cables though – presumably – are the same for each machine?
That's why we use the joystick port, so that we can have one cable and get the cost down.

The fact that you've had to do three different CDs for the three 8-bit markets, has that been a problem?
It's just a problem for us, pruning the costs! If we'd got all of the timings right we could have put all of the games on one disc.

It's just that you wanted to get them out as soon as they were ready?
Yes – every day before Christmas counts. People are buying their Christmas presents right now. We were thinking originally of one pack, which worked with the Spectrum, Amstrad and Commodore, but we thought that would confuse people. We did quite a lot of store visits, watching people buying games and trying to work out why they buy them, and they get confused over very, very simple things. If Granny's going into a shop to buy a present for a kid for Christmas, it's confusing enough that it's on compact disc.

How many games you could fit on the CD if you crammed it right to the limit?
It changes on each computer. On the Commodore we've got them saved twice, once



● Today, 30 games on one disk. Tomorrow, huge mega-games, multi-frame animation, sampled sound...?

really fast and once slower. From our tests, the really fast one is more reliable than the slow one, just because of the way the loader works. There was no real need to do it, we just thought we'd use up the rest of the disc!

Are your CDs as foolproof as normal audio CDs?
They're 100% reliable as long as the disc isn't damaged.

What constitutes damage? Presumably scratches or fingermarks will prevent the games loading properly?
No, it just depends how bad it is. The error-checking is quite amazing. We've gone into this in quite a lot of detail. You can have quite a few scratches on the disc, or fingerprints, and it won't make one bit of difference. All the data is loaded into the CD player and then it corrects it all, because it's got the data saved several times. The information is stored on the metal or whatever beneath the plastic surface of the disc, and three lasers look in at different angles. This means that a scratch on the surface of the clear plastic layer would have to occur in three places to corrupt the data. So they really are very reliable. But if you got a brillo pad and scratched it, *then* it wouldn't work!

But everyday wear and tear isn't going to make a difference?
Not if you're careful with it. And if you do scratch it... the way that it works is that if you clean it from the inside out, you'll be OK. You should never clean them with a circular motion, because the data's stored in concentric rings around the centre. But if you wipe from the centre outwards, you can, literally, polish them up.

I think, most of all, that everyone's surprised that Codemasters should pioneer something like this, because you'd normally expect one of the full-price software houses or a hardware manufacturer to do that sort of job.
People think that purely because of the price of most Codemasters games. But that in itself is pioneering because we were one of the first companies to go in at a really low price. Major software houses tend to just follow well-proven formulas.

So it's like an expansion – you're diversifying.
Richard and I started off in this business programming. Then we learned how to get advertising done and talk to people like Boots and Smiths and we learned all the marketing side of it. But it's really not what we specialise in. We specialise in development. We really want to get back to that. We've set up a marketing team and production team now.

When you say development, do you mean in the broadest sense or purely in terms of games?
Well at the moment it's inventing hardware, add-ons of various types. We've got hardware skills and people now that we didn't have before. But we've also obviously got access to an awful lot of programmers who are very good at software, too, so we have all three main skills. We know what sells, and why, and what people want in this industry. And we have access to both software and hardware production – including manufacturing in Taiwan.

You made a conscious decision over the past year or so, then, to get into wider areas?
Well we've always come with "oh, this would be a good idea", like a really cheap fax machine, worked out how to do it etc etc, and then you think "oh God, it's going to take £2 million to fund it", and "how the hell can we market it?" and whatever. And we just got fed up with coming up with ideas and then them happening two years later.

When you'd already thought of them...
Yes. So we thought we'd start off producing things that we could fund, that cost £50,000 or £100,000 or whatever, and then build up from there.

So with the CD compilation and the leads and so forth, coming out, this is a sign that you're going to get into more than just software?
Oh yes, this is just the tip of the iceberg.

So you've got lots of other things going on that you can't tell us about?
Yes. Oh, yes!

David Darling laughs secretively, and the interview is over...



● 30 games for £19.95! It has to be the greatest compilation ever.

CD ROM for £20? Well, technically...

CD ROM is something of a buzz-phrase at the moment. These devices are capable of storing vast amounts of pre-recorded data on a conventional CD, and are able to load it in at lightning speed.

As you'd expect, though, this leading-edge technology costs hundreds of pounds, even thousands. And there is not an awful lot available on CD ROM at the moment. The disks that do exist are generally given over to scientific applications and computerised encyclopaedias. At present, interfaces and software are available only for high-end machines like PCs.

Wot, no drive?

The compact disc from Codemasters does not require a CD ROM drive to run, however. Instead, it works on a standard audio compact disc player. Any CD player will do, from the cheapest Amstrad ghetto-blaster to a top-of-the-range Technics. A lead simply connects from the headphone socket on the player to the joystick port on the computer.

The Codemasters solution is very clever. Firstly, the custom-designed lead will connect to any CD player and most home computers. Every CD player has a phono output – even if it's part of a midi stack unit then there's one on the amplifier. An adaptor is even included to accomodate the difference in the size of some jack plugs – portable units tend to have have smaller sockets rather than the 3.5mm on full-size players.

Secondly, the lead connects directly to the joystick port of the computer, which practically all computers have. Only the early Spectrums missed out (ha!), and joystick interfaces are available for that machine anyway. The lead contains a neat electronic circuit moulded into the plastic D-connector casing at the joystick end. This miniature box of tricks turns the audio signal from the CD into the binary on and off pulses that the computer requires.

500 yards of tape?

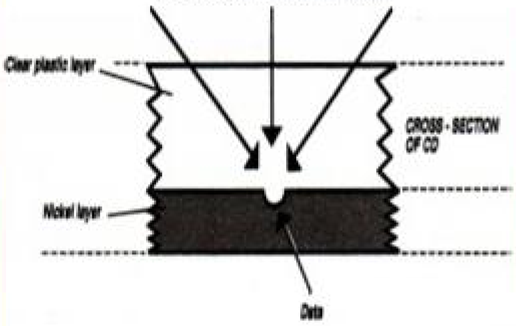
Codemasters' device, however, has more in common with a tape loader than CD ROM – so what's the point of putting all those games on a compact disc instead of a tape?

- For a start, you'd need a pretty long tape to hold all thirty games. Between them they take up over one and a half megabytes, and a Codemasters compact disc has ample storage space for twice that.
- Also, it is always a problem finding the program you want on tape compilations. Imagine trying to load the correct game from a compilation of 30! Every CD player, however, has some kind of 'skip' feature, from a two-button up/down search to a full set of keypad programming controls. Each game is stored on its own seperate track, so say you wanted to load *Death Stalker* on track six then you would simply skip to track six and press play to load the game in.
- The CD is quicker than tape. Thanks to the purer sound from the CD and the custom circuitry in the lead, the blips of sound can be shorter, cutting down loading time dramatically. Codemasters reckon the loading time of a game that takes four minutes from tape will be a mere twenty seconds from the CD – around the speed of a disk drive!
- CDs are also very 'accurate'. They have comprehensive error-checking facilites designed for crystal-clear reproduction of sound. It takes a pretty nasty scratch to obliterate the data on a CD, and even then the built-in software in the CD player can work out what the data 'should have been'.

Each sound sample is stored as a 16-bit number on the CD, giving a vast dynamic range. The Codemasters system uses six of these two-byte words for every single bit that the computer reads. It's necessary to use this much data to get a long enough tone for the computer to read. The more astute reader may well be asking the question of how the computer gets to read the data in the first place? Well, a tape coming with the pack contains a short loader. Codemasters hopes to implement an option to save this to disk, so that disk drive owners can initialise the loader easily. The loader could also be supplied on the CD itself. It would be saved as a normal cassette file, so you would just need to plug the standard cassette lead into the CD to load the loading software, then swap to the special custom lead to load in the games. Additionally, each game will have a quit option, getting you straight back to the loader ready to load the next game immediately.

WHAT'S THAT AGAIN?

The data on a CD is stored in a binary form as millions of microscopic pits in a thin layer of nickel, protected with a thick covering of plastic. A laser beam is aimed at the disc. The shiny nickel layer reflects light back, whereas the pits disperse the light – thus determining whether the the bit is 'on' or 'off'. Each sector of the disk is read many times, with the laser being shone from different angles, so that a scratch or speck of dirt on the disk affects only one reading. In the unlikely event that all readings are marred, the player can look at other data surrounding the faulty bit and work out what it should be.





● The prototype lead in all its naked glory. Production versions will have the circuitry moulded into the joystick D-connector.

The CD games pack is a pioneering development in 8-bit computer software. As an introduction to the technology, 30+ games for a fraction of the price of buying them individually on cassette is an ideal way of getting it into people's hands – anyone who owns a CD player and CPC is going to find it irresistible.

Future shocks

Future releases need only include the compact disc itself. Everyone who has bought the games pack will have the connecting lead and loading software already, so Codemasters may well further reduce the already remarkably low price.

Codemasters has a huge back catalogue of 8-bit games, and could bring out another compilation quite easily. However, the firm is currently considering much more ambitious ideas. Huge games with full-screen pictures and massive animated sprites are just one possiblity. Memory constraints that programmers constantly struggle with to get the best graphics and biggest game areas will become a thing of the past. Extra levels and graphics could be loaded in at press of a button. And games like these wouldn't necessarily take any longer to develop since the code itself wouldn't be any bigger. The scope for graphics, however, would be boundless.

If the venture is succesful – and there is every reason to suppose it will be – then other companies will be more than interested to get their software on CD. It would be commercially far more viable for them to licence Codemasters' technology rather than spend thousands developing their own.

This new medium is going to take the 8-bit computers into the 1990s. Watch this space...

FORUM

Another postbag of problems solved by resident boffin ADAM WARING

●You drive me crazy

I have purchased a Hitachi 3-inch disk drive unit. This has 12 volt and 5 volt connections. These present no problem as they are labelled.

The problem is the 34-way connector. The Amstrad manual lists the connections at the computer end, but I have no way of knowing the correct connections on the drive unit. One thing I have noticed is that all the odd connections are linked together, suggesting that they are at ground potential.

Is it possible to print the correct connections for this unit? There may well be others with this problem as there are a number of these drives on the market. I paid £12.95 for mine.

P.R. Eaton
Wellingborough

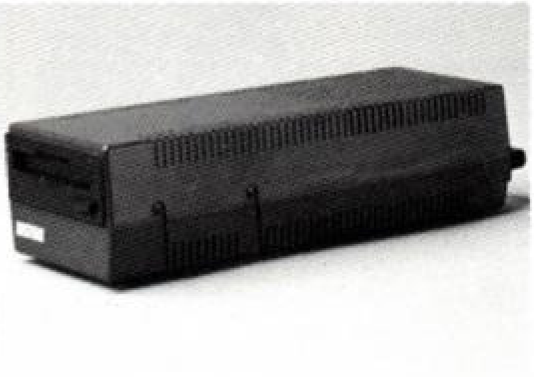
You certainly got a bargain, didn't you? Not much good to you if you can't get it to work though!

You haven't given me an awful lot to go on. I'm surprised that you didn't get a data sheet with the drive, but I'm prepared to give you an educated guess.

The drive mechanisms in the Amstrad FD-1 units are in fact manufactured by Hitachi and Panasonic. It's my bet that your drive will connect with a standard cable – if it's reversed!

I say this because the manual for the CPC shows all the even-numbered connections are grounded on the edge connector. Reversing the cable will match up the grounded connections, and hopefully will make the right contacts on the other side.

It is also likely that there will be some links on the circuit board for the drive select. You will need to link the drive one select pins together.



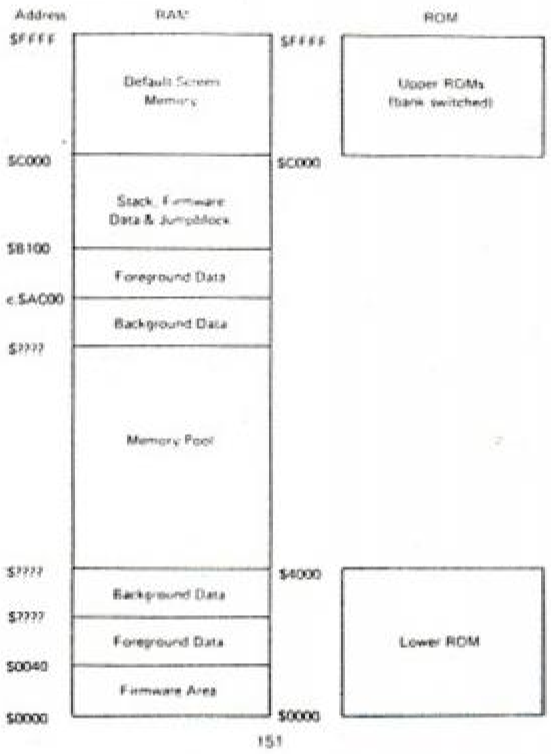
● Is your Amstrad drive really a Hitachi?

●Memory map

Could you please print a diagram of a memory map for the CPC464. Cheers!

David Morrow
Orpington

To hear is to obey.



● CPC464 memory map.

●ROM rumour

A little birdie told me that the ROM version of Protext is only compatible with 664s and 6128s. Can you put my mind at rest and tell me if it is available for the 464?

Harry
Redcar



Rubbish! Protext *on ROM will work just as well on a 464.*

●Saving grace

I am composing a form of database, but cannot save the data to tape or disk for recalling purposes. Please help an avid reader in distress.

Sean Power
Leeds

I don't know the exact format of your data, but you need to do something along these lines. These examples will load and save two string arrays and one numeric array.

To save data to disk:

```
10 OPENOUT "DATA"
20 FOR x=1 TO length
30 WRITE #9,a$(n);b$(n);c$(n);
40 NEXT
50 CLOSEOUT
```

To load the data back in:

```
10 OPENIN "DATA"
20 FOR x=1 TO length
30 INPUT #9,a$(n);b$(n),c(n);
40 NEXT
50 CLOSEIN
```

●Memory block

I have had my CPC464 for four years, and am now wanting to add a disk drive and 64K memory expansion. Can you please advise me on what I should get bearing in mind quality and price.

Are there any places to get it done? I'm reluctant to get a 6128 as I've many tape games which I still would like to use.

Enriqueta Taylor
Yarnton

You won't need to have the upgrade done professionally. Both the disk drive and memory expansion will simply slot into the port on the back of your 464.

As a first drive for the 464, you will need the Amstrad DD-1. This comes in the form of a box containing the disk operating system and a cable connecting to the disk drive. The list price for the DD-1 is £159, but you should be able to get it cheaper by scouring the mail order ads in AA.

The DK'Tronics 64K expansion is a popular choice for memory upgrades, and will set you back another £50.



● DK'Tronics 64K expansion pack – you can fit it yourself.

●Double trouble

I own a CPC464 and a Cheetah 125 joystick. I want to play a two-player game of *Emlyn Hughes International Soccer* but I don't want to have to buy the Amstrad JY2 joysticks.

I have heard that you can't use any other make of joystick with a JY2. Is this true? If so is there any other way of using two joysticks?

S Milner
Whitchurch

You've heard right I'm afraid. The Amstrad joystick has an additional port to plug in joy-

stick two – which must be wired up differently to a conventional joystick.

To overcome this problem, several third-party manufacturers came up with a joystick splitter. This device plugs into the joystick port, and is wired to accept two standard joysticks. Try K&M Computers on 0695 29046.

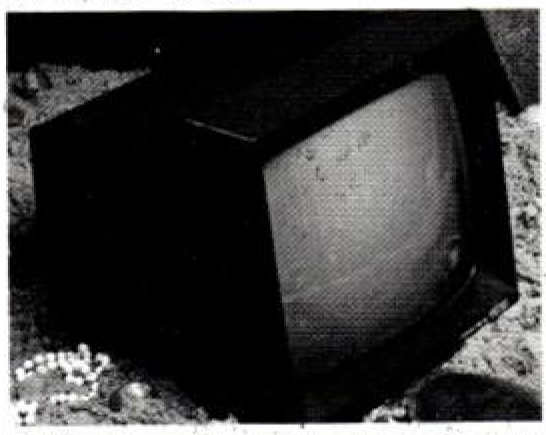
●Seeing Green

I have got an Amstrad CPC6128 with a green monitor, but due to an eye condition, I am beginning to find the contrast of light green on dark green, or the reverse, doesn't allow me to see clearly enough. However the colour monitor has a much better contrast which I find a lot better and easier to see. However, I am unable to find anywhere in the Birmingham/Coventry area that will do a part-exchange for green monitors (where you would just pay the difference).

Can you help me find a shop or warehouse, or anyone else in the area that will do the exchange?

Mark Williams
Coventry

Amstrad, in its infinite wisdom, does not sell the colour monitor separately, making it nigh-on impossible to upgrade from mono to colour monitors. This has always been a sore point with many green screen owners, but Mark's case is rather more special because of his sight problems. If anybody can help Mark out then write to me at the AA address and I will pass on the message.



● 6128 colour monitor – who'll sell one on its own?

Inside information

I want to buy an insider cartridge, like Multiface, but Multiface is too expensive. Which other cartridges are available for the CPC?

Everyone knows that that some old cassette games made for the 464 don't work on 6128. This is because the disc operating system on the 6128 uses some extra RAM for the disk drive. When you ask the value of HIMEM, the answer is 42619 as opposed to 43903 on the 464.

This short machine code listing clears that memory:

```
A000    LD      HL,#A008
A003    LD      C,#00A005
CALL    #BD16
A008    LD      A,#C9
A00A    LD      (#BCCB),A
A00D    JP      #C006
```

Since the disk drive is now unavailable, CAT, LOAD and SAVE commands work directly with tape operations (no need for |TAPE), and HIMEM is set to 43903.

Cagdas Kocyigit
Istanbul

Thanks for the tip. Romantic Robot is presently offering the Multiface at the discounted price of £42.95.

Also take a look at the Hackit (reviewed p25) from Siren.



●Alternative firmware

For all those budding machine code programmers who are in desperate need of the machine calls – but can't get hold of the firmware manual – I have the book for you. The *Amstrad CPC464 Whole Memory Guide*, by Don Thomasson, ISBN 0-86161-199-3, published by Melbourne House, has a detailed description of over 220 calls with their addresses.

Now for my question. Why can't you use *The Insider* on Multiface-copied games?

Edward Hieatt
Cambridge

May I also add that the Amstrad Advanced Users Guide *by Daniel Martin, ISBN 1-85181-918-8, published by Glentop, is another treasure trove of information, including firmware calls.*

I don't know, why can't you use The Insider *on Multifaced games?*



●Beeb blues

I have a 464, and have been offered the chance to buy a second hand BBC micro. could you tell me if the BBC is compatible with my CPC?

Diane Reant
Harlech

If you want to use the same programs on both machines then the answer is no, I'm afraid.

●Split ends

Could you please help me with my little problem. My daughters use a joystick with their games, I use an AMX mouse with *Stop Press*. Therefore both are being continuously plugged and unplugged into the joystick port on the 6128, which can't be doing it a lot of good. I bought a joystick splitter, but sent it back as it scrambled the keyboard if left in. I then made the joystick splitter from the article in your mag (*AA33*). This worked great with two joysticks, but it will not work as I had wished with both a joystick and mouse permanently attached. Can I rewire the splitter to accommodate the two?

Les Plumb
Chelmsford

The design for a joystick interface to duplicate the functions of two devices connected to one port is actually much simpler than the joystick splitter.

You could quite easily transform the joystick spitter into a joystick doubler by con-

●The Joy Of Hex

In *Forum* you requested that people should send in any useful one-liners they may have written. I have a particulary useful routine. It allows a headerless screen to be saved when Copy is pressed and will load a headerless screen when Tab is pressed. It uses the ticker block so that the machine can carry on with other program tasks. The line is exactly 255 characters long which is why you don't see a line number.

To initialise, type it in, type RUN and then CALL &5FF4 followed by CALL &BE00. The routine is situated above the firmware area.

```
FOR b=&5FF4 TO &6035:READ a$:POKE b,VAL("&"+a$):NEXT:DATA
21,00,60,11,00,BE,01,3F,00,ED,B0,C9,21,36,BE,06,81,0E,00,11,0D,BE,C3,E0,BC,3E,09,
CD,1E,BB,28,02,20,08,3E,44,CD,1E,BB,C8,20,0C,21,00,C0,11,00,40,3E,41,CD,9E,BC,C9,
21,00,C0,11,00,40,3E,41,CD,A1,BC,C9
```

Andrew Price
Dunstable

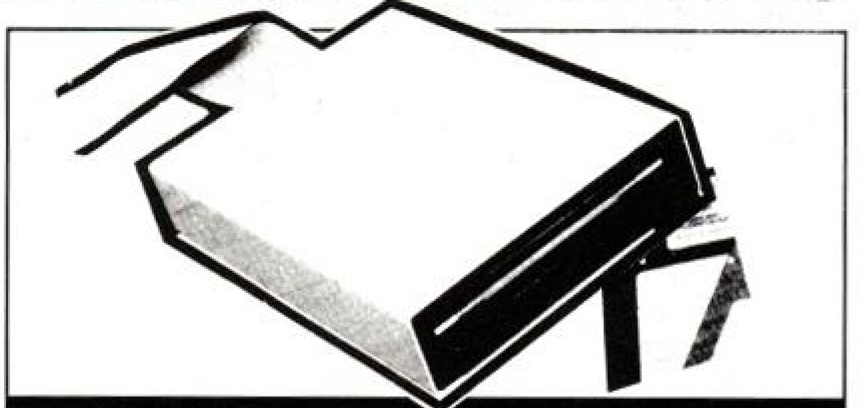
Thanks for that Andrew. You win the prize for the longest ever one-liner!

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MEGADRIVE

ROMDOS & RAMDOS

These two programs are essentially the same, the only difference being that ROMDOS is supplied on ROM (and needs to be fitted into a rom board) and RAMDOS is supplied on disc. Both programs will support AMSDOS, CPM 2.2 and CPM PLUS and is very simple to use. If you are using RAMDOS then a short program must be run before you can access the MEGADRIVE. With ROMDOS, the computer is configured when it is switched on. Files can be copied to and from the MEGADRIVE with the CPM PIP program. Both programs come with formatting software and full instructions.

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RODOS is supplied on ROM (and needs to be inserted into a ROM board) and offers many unique features to the CPC user. It will automatically configure drive B on switch on, it offers a silicon disc & printer spooler (6128 only), upto 3 times faster disc accessing, tree directories, disc formatter and file copier. RODOS fully supports AMSDOS, but will not work with CPM 2.2 or CPM PLUS. RODOS is ideal for the experienced user, however if it is just a large capacity second drive that you need, we recommend ROMDOS or RAM-

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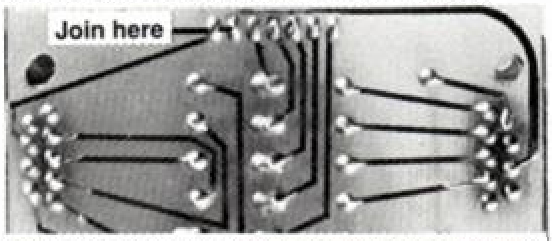
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necting the two common terminals (pins 8) together and disconnecting the second common wire. Alternatively you could check out the autofire interface from Microsnips (051 630 3013) which has a built-in mouse port.



● You can rewire *AA*'s DIY joystick splitter to make a joystick *doubler.*

●In, out shake it all about

Is there any sort of CALL or POKE type of command which reads from the expansion port on my CPC 6128 that 'switches on' a device, a ROM for example.

Farhan Masani
York

IN and OUT will do the trick. As you know, POKE alters the contents of the computer's memory. OUT does a similar operation on the expansion bus, changing the contents of input/output addresses. This example uses the OUT command to send instructions to the computer's video chip, producing an interesting effect:

```
OUT &BC00,8:OUT &BD00,1
```

Notice that the syntax is exactly the same as POKE. There are 65536 different I/O addresses, and they work with single byte values.

As you'd expect, IN works the same way as PEEK.

●Colour Co-ordination

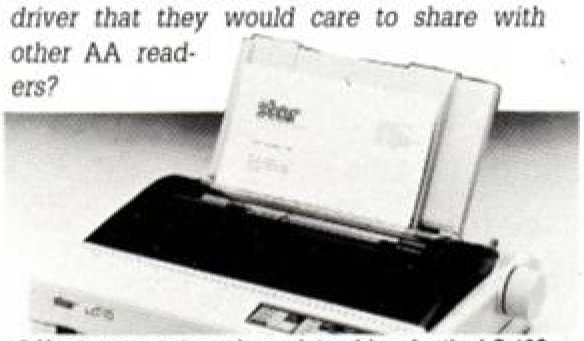
I recently bought a Star LC10 colour printer which up to now has operated perfectly.

The problem is, as we were told in *AA* twelve months ago, you can't do colour graphics because of a lack of software to drive this printer.

Are there any programs available, or likely to become available that will do the job? I do hope so, as given the exceptional colour palette of the CPC and the relative cheapness of the LC10, it would be a wasted opportunity of the possiblities that they seem to present.

Rod Morris
Burnley

How about it? Does anyone know of anything written to take advantage of the LC10's features? Or even better, has anyone written a driver that they would care to share with other AA readers?



● Has anyone got a *colour* printer driver for the LC-10?

●Out of control

When 6128 owners try CTRL+ENTER we get a bad command message. It would be interesting to make this key combination to do something useful instead. Try entering the following:

```
5 for a=&b5a9 to &b5ad:read a$:poke
  a,val("&")+a$:next:data
  43,41,54,20,0d
```

Run the program and now try CTRL+ENTER. A little more useful than the error message, is it not?

By changing the Hex messages you can get it to do other functions, i.e. list, edit, auto.

M J Vale
Havant

Thanks for a great tip. Your cheque's in the post!

●Comunications breakdown

Your advice on the following would be much appreciated. I own an Amstrad CPC 6128. I also own a Cambridge Z88. My questions are:

Can I get software to transfer text files from the Z88 to my CPC so that I can archive/store them on CPC disks?

Can I edit/work on text files text files I have transfered to the CPC? If so then how could I do it and what wordprocessor should I use? Choices seem *Tasword, Brunword, Mini Office II* or *Protext.*

Dr J Drozd
Sittingbourne



● Can you transfer files from the portable Z88 to your CPC?

No problem! We have successful transferred data in the AA office from Rod Lawton's Z88 to the CPC.

The Z88 end has all the necessary communications software and hardware, but has a non-standard RS232 interface port for which you will need a special lead. The Z88's manual has an appendix detailing the connections. You will also need an RS232 interface for the CPC.

We used the Comstar combined interface and ROM which has its own built-in software, but you can use PIP, as supplied on the CPM disk to transfer the data.

The transferred file will be in ASCII, so any word processor that can read standard ASCII files will be suitable.

●Printer Puzzle

Please can you help me! I am interested in getting a printer for my 464, and wondered if you could please tell me what printers are compatable?

Christopher Vince
Solihull

Any printer with a centronics interface (i.e. the vast majority) will work. Look in the AA Buyers Guide *for more info.*

●Chip shop

I've got a CPC464 with the DD1 Disc drive unit plus interface. I have been thinking of getting RODOS, so I opened up the interface and discovered a chip called AMS 40015. Do you think that I could take it out and put RODOS in instead of having to buy a ROMboard? I'm fairly confident that I could do this.

James Parry
Derby

That chip is there for a reason, James. You can't just swap them around like that. You'll end up paying far more than the £25 for a ROM board if you meddle.

THE GREAT ESCAPE

Readers have replied in droves to Robin Marlowe's letter concerning disabling the break key in BASIC listings.

Three methods were popular, and all should be in the first line of the program:

```
ON BREAK CONT
KEY DEF 66,0,0,0,0
POKE &BDEE,201
```

Loads of you have sent in useful POKEs and CALLs for use in BASIC. Here are a selection:

```
CALL &BB18
   Waits for keypress
OUT &BC00,8:OUT &BD00,130
   Scrambles the monitor signal
FOR N=0 TO 40:OUT &BC00,8:OUT
&BD00,N:NEXT
   Scrolls the screen
POKE 370,0
   Makes the first line zero. Cannot
   be listed, only run.
POKE 0,&C9
   Disables system reset.
POKE 372,0
   Disables use of first line which
   must be a REM statement. LIST
   gives a syntax error. Execute
   program with
   RUN 20
```

Thanks to:
Johnathan Nurse, Stephen Lawson, Robin Nixon, David Lee, C. Farrow, Sean McManus, Tony Kingsmill and Harry.

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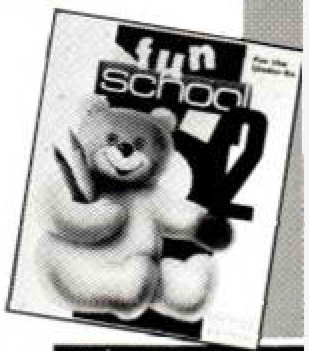
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DATABASE EDUCATIONAL SOFTWARE

Playing with Protext

It works, but there are drawbacks...

Or, *Thinking Right*. Tired of boring old single-font, dotted-line printouts? PETER CERESOLE pulls out all the pins and gives his printer a kick in the RS232 in Part 2 of his ongoing *Protext* series...

Protext is a way of talking to your printer. After that, the printer talks to the paper, and the paper talks to the other humans out there... (This will go on until we go straight into the cortex. All those who haven't read *Neuromancer* and *Count Zero* hand back your techie badges at once). But right now, printers are what there is. If you have a Cray XMP connected to a DMP-1 everyone will know you're a nerd. But with a ZX-81 (with PostScript) and a LaserJet you can write to the Queen. Or even the Prime Minister.

So, think of the whole thing, *Protext*, *Promerge*, *Prospell*, *Utopia*, the CPC, the KDS 8-bit interface, as ways of driving the printer. If you have a problem, work backwards. If you can figure out how to make the printer perform, then you can do it with *Protext*. If there are glitches, then it's you (in this case, me).

Using all the Pins

A whole new way of life opened up when I got a NEC P2200. It has the extended IBM character set. You can't reach half of them with the CPC's funny 7-bit printer port, but I can reach everything with a KDS 8-bit printer port interface. The KDS port is deeply, deeply wonderful. KDS have made two versions. Both work with AMSDOS and CP/M, but for both the normal set-up program, which you run to start the interface running, clashes with *Promerge+*.

When I first got the Mark 1, Arnor were still working hard on the CPC, and they wrote a new program for it when asked (over the phone, within a few hours; one of the best things about *Protext* is dealing with the fellows at Arnor).

In case anybody else has had this problem, here is the program from Arnor to make the *old* KDS 8-bit interface work with *Promerge +*:

```
2  RESTORE 10:SYMBOL AFTER 256:MEMORY HIMEM-
   26:m=HIMEM+1
4  FOR q=m TO m+22:READ a:POKE q,a:NEXT
6  m=m+4:FOR i=0 TO 2:POKE q+i,PEEK(&BDF1+i):NEXT
8  h=INT(m/256):l=m-h*256:POKE &BDF2,l:POKE &BDF3,h
10 DATA
   &fe,&0a,&37,&c8,&f5,&07,&e6,&01,&ee,&01,&06,&e5,
   &ed,&79,&f6,&02,&ed,&79,&e6,&01,&ed,&79,&f1
12 POKE &BD31,&C3:POKE &BD32,&2B:POKE
   &BD33,&BD:CALL &BD58
```

The problem with the Mk 1 port is that unless you fire it up, it corrupts the printer output. There are programs that won't run with it – like *Advanced Art Studio*. So to print from that, I have to take the interface off. Of course, I forget each time. It's a real bore. Save the Rembrandt. Power down. Take the ruddy thing off. Power up. Once more through the Lenslok (a special treat, this). And after the session, bung the interface back on. A real drag.

Now along comes the Mk 2. Deeply, deeply wonderful. It's invisible to the printer unless it's set up, and it's tiny on the back of the CPC. BUT it won't work with *Promerge +* either.

This time, with Arnor it was different. They were very busy making *Protext* work on the Cray and I never got a fix for the KDS. *But help was still at hand.* Yes indeedy – you see, I'd joined a CPC club called *WACCI* (plug plug plug). And WACCI has telephone helplines and on the other end of one of them is a chap called Stewart Peppiatt.

Without either the specs of *Promerge +*, or of the KDS interface, Stewart rewrote the KDS loader for the Mk 2, and *it works*. It makes the CPC into a fair 8-bit machine, and reduces *even more* any wish I might have to change machines.

This is Stewart's start-up program for the KDS Mk 2 printer port interface, that enables it to run with *Promerge Plus*.

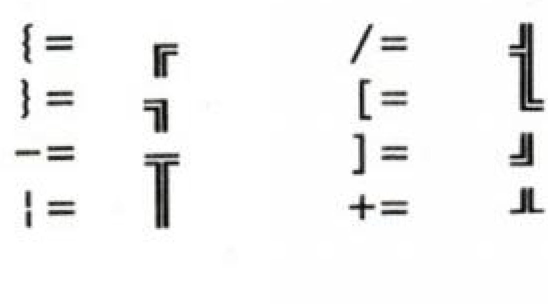
```
1  restore 1:symbol after 256:memory himem-
   30:m=himem+1
2  for q=m to m+25:read a:poke q,a:next
3  m=m+4:for i=0 to 2:poke q+i,peek(&bdf1+i):next
4  h=int(m/256):l=m-h*256:poke &bdf2,l:poke &bdf3,h
5  data
   &fe,&0a,&37,&c8,&f5,&07,&30,&11,&06,&ef,&af,&ed,
   &79,&cb,&c7,&ed,&79,&cb,&87,&ed,&79,&cb,&c7,&ed,
   &79,&f1
6  poke &bd31,&c3:poke &bd32,&2b:poke
   &bd33,&bd:call &bd58
```

Thanks Stewart. May the sun shine out of your opcodes.

And with the printer port sorted out, you're in business – in the Big Blue business, as it happens.

Boxing Clever

But, if your printer can draw these characters, you also want to see them on-screen. You have to redefine some characters. Here's how.

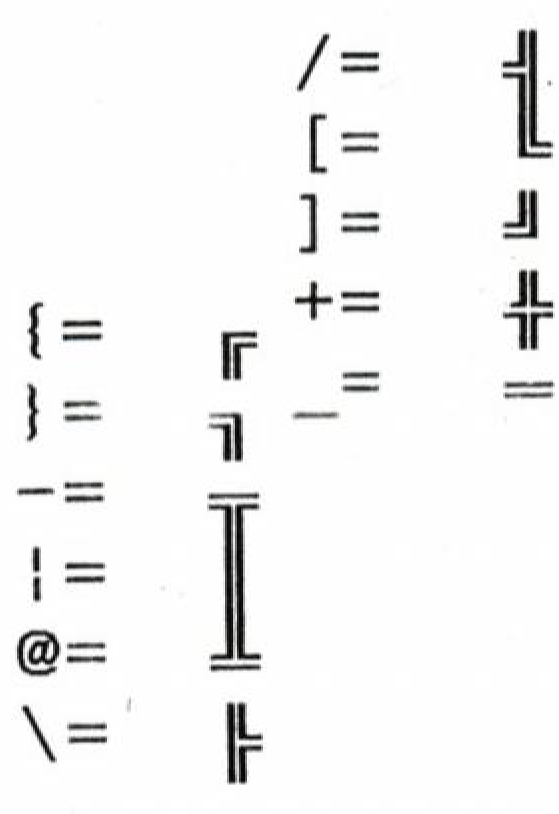


To define it for the CPC, you draw it over the grid to the right (which was itself printed using the IBM single line characters – you see, this stuff can be really useful). White squares count as 0, black squares as 1. Then, reading from left to right, you write down the numbers along each row. So the top row is 01100110, which, as every schoolboy with at BIN to DEC program running knows, is 102. So are the next two rows, then the fourth row is 11100111, which works out as 231. Onwards and downwards, to get, altogether, 102,102,102,231,0,231,102,102. Use the "symbol" command to define the character for the CPC (see the Amstrad manual) and that's it. Define a whole bunch of characters and you get a BASIC file, called, let's say, "BOXDRAW.BAS". Now to use it.

```
10  symbol after 43
20  symbol 43,102,102,102,231,0,231,102,102        '+
30 symbol 45,0,0,0,255,0,231,102,102               '-
40 symbol 47,102,102,102,230,6,230,102,102         '/
50 symbol 64,102,102,102,231,0,255                 '@
60 symbol 91,102,102,102,103,96,127                '[
70 symbol 92,102,102,102,103,96,103,102,102        '\
80 symbol 93,102,102,102,230,6,254                 ']
90 symbol 95,0,0,0,255,0,255,0,0                   '_
100 symbol 123,0,0,0,127,96,103,102,102            '{
110 symbol 124,102,102,102,102,102,102,102,102     '|
120 symbol 125,0,0,0,254,6,230,102,102             '}
```

You load *Protext* to set the normal key definitions. Then "Quit". Run "BOXDRAW.BAS". This gets the screen to display the boxes. Then go back to *Protext*.

Certain keys are changed to show the new symbols.



To make this print right, load a file of stored commands called "boxdraw" which goes:

```
>rc "{" 201
>rc "[" 200
>rc "}" 187
>rc "]" 188
>rc "|" 186
>rc "_" 205
>rc "/" 185
>rc "@" 202
>rc "-" 203
>rc "\" 204
>rc "+" 206
```

If you're really feeling hip (hip?) you can load this automatically when you run "BOXDRAW.BAS".

```
And that's it!
```

But look out! There's a limit to the number of codes you can redefine. This fills up the space available for the printer driver, and if you want to re-redefine the codes (if you get my drift here) you get "out of memory" when you try to print. In fact, that's a problem I first ran into when I was writing *this*. I called Arnor and got Gavin Every, who has been Totally Helpful before (*he* wrote my new KDS set-up program in a few hours). He told me what the root of the problem was. The solution is to re-set the printer driver to its original state, before you give it a new set of definitions. You can use the stored command ">pr a:nec" (in my case, logged on to b: and the printer driver file "nec" in a:). It jolly well works, too.

If you want to get your screen display back to normal, you can run this Basic program called "UNBOX.BAS":

```
10 symbol after 43
20 symbol 43,0,24,24,126,24,24
30 symbol 45,0,0,0,126
40 symbol 47,6,12,24,48,96,192,128
50 symbol 64,124,198,222,222,222,192,124
60 symbol 91,60,48,48,48,48,48,60
70 symbol 92,192,96,48,24,12,6,2
80 symbol 93,60,12,12,12,12,12,60
90 symbol 95,0,0,0,0,0,0,0,255
100 symbol 123,14,24,24,112,24,24,14
110 symbol 124,24,24,24,24,24,24,24
120 symbol 125,112,24,24,14,24,24,112
```

The box shapes will look weird on screen, but they'll print up okay, because the stored ">rc " commands will still be there.

Pretty Things

Now there's really no limit, except your masochism. You can print anything you want – for instance, your signature. On my NEC, you send a set of codes to go into a particular graphics mode, tell the printer how many bytes follow, and then send the codes. All This can be done in ">oc" stored commands. Now in case that sounds simple, it's not. It's quite simply a bastard (but fun, of course, on the right day....).

I found the simplest way of getting the graphics codes was to draw a grid. Use a "line-draw" routine to print a grid to design on, 8 by however many you want for 8 pins, 24 by whatever for a 24-pin printer. Then you draw your design over the grid, working out which pixels you want to fill. Reading up the columns, black pixels are "1", empty ones are "0". Write the decimal number corresponding to each binary byte by each column (to make this easier, its worth designing lines extending down from each column of pixels on your grid. It's also worth having a basic "Bin to Dec" program running, because this phase is fundamentally a matter of bashing in the 1s and 0s).

As a straight piece of vainglory, I decided to do my signature this way. It's far from the best possible, but the amount of coding to do it in quad density (plus twice the size) is too ghastly to contemplate.

Me

```
>oc 27 64
>oc 27 36 120 0
>oc 27 42 33 110 0
>oc 0 0 7 0 0 7 0 0 14 0 0 14 0 0 224 0 0 224 0 3
   128 0 3 128 0 13 2 0 13 2 0 49 15 0 49 15 1 194
   49 1 194 49 6 4 193 6 4 193
>oc 24 27 6 24 27 6 96 124 12 96 124 12 129 240 48
   129 240 48 127 193 192 127 193 192 3 6 254 3 6
   254 12 15 3 12 15 3 16 112 2 16 112 2 97 192 4
   97 192 4
>oc 131 0 8 131 0 8 12 0 62 12 0 62 16 1 195 16 1
   195 32 2 6 32 2 6 64 13 24 64 13 24 128 14 96
   128 14 96 128 1 128 128 1 128 0 2 12 0 2 12
>oc 0 4 243 0 4 243 0 11 4 0 11 4 0 28 8 0 28 8 0 0
   30 0 0 30 0 0 99 0 0 99 0 7 141 0 7 141 0 9 16 0
   9 16 0 14 100 0 14 100
>oc 0 0 141 0 0 141 0 1 26 0 1 26 0 6 225 0 6 225 0
   11 2 0 11 2 0 28 14 0 28 14 0 16 113 0 16 113 0
   33 131 0 33 131 0 2 12 0 2 12
>oc 0 4 56 0 4 56 0 7 192 0 7 192 0 8 0 0 8 0 0 48
   28 0 48 28 0 65 231 0 65 231 0 135 4 0 135 4 1
   56 24 1 56 24 2 192 124 2 192 124
>oc 5 0 130 5 0 130 14 3 131 14 3 131 24 13 4 24 13
   4 32 17 4 32 17 4 0 33 8 0 33 8 0 32 8 0 32 8 0
   0 16 0 0 16
>oc 13 10 27 64
```

And it looks like this:



The point is, designing graphics by numbers is always balls-breaking, but in *Protext* you can tidy and mess the codes about with great ease.

Now: does anybody out there have a way of designing, say, with *Advanced Art Studio*, and then converting the screen image with some miraculous program to Epson codes. It would be a version of a screen dump program. If you could get the codes into a file, it should be possible to get them into ASCII form, then load them into *Protext*, tidy them into a series of >oc lines and whoopee, you're importing graphics into *Protext*. Yes?

Next: how to get all this boiled down to a start-up program, and how to wrestle with the printer driver.

TALKING NONSENSE

Or... Part 1 revisited

Well, no, actually, it's like this...

For reasons that would take more space to explain than we have here (anyway, we haven't thought of them yet) four rather important illustrations got missed out of the first instalment (*AA*50). These were as follows:

```
Italic   condensed   Large
£7       £8          £9

12 cpi   10 cpi      supers
£4       £5          £6

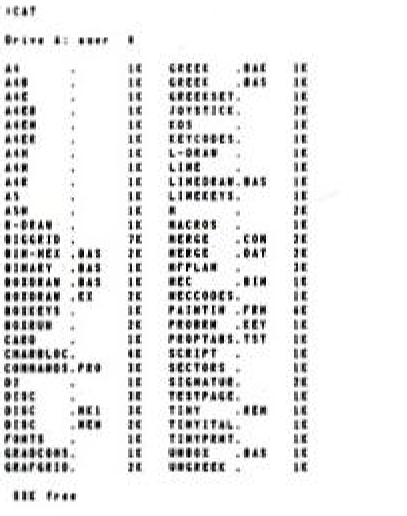
under    bold        subs
£1       £2          £3

NLQ
£0
```

Simple *Protext* key map.



Tinyprint example, obtained by typing:
>oc 27 65 6 15 27 83 1



How to put a Cat in a box.

```
>--------------------------------|--------------------r
>sm 11
>tm 0
The Hon El Haj Idi Amin Dada                 Peter Ceresole
"Dunrulin"                                 51 Swannery Row
The Footscrays                                      London
Auchtermuchty                                      CPC AOK
AU1 9TSB

Dear Idi                                            8/8/88
```

Sample headed letter.

HELPLINE

Feeling helpful? Just send your name, address, phone number (say if you don't want it printed) and subjects on which you're offering help to: *Helpline*, Amstrad Action, 4 Queen Street, Bath, BA1 1EJ. Please write on a postcard or the back of a stuck down envelope and keep it short or you won't get in (or you'll get cut to 'loadsagames').

If you want help contact the appropriate Helpliner – not us. By post include a self-addressed, stamped envelope for the reply – or you won't get one. And phone only in decent hours!

Piracy is not welcome: don't try it, you'll get booted off. Keep it legal. And if you receive SAE's, for heaven's sake return them with some acknowledgement. Finally, if you want to come off *Helpline* just write in and say so.

HELP! Has anyone got *Head Over Heads*(?) to sell on disk?
Dave Clark, 16 Hill Road, Barrow – in – Furness, Cumbria, LA14 4HA. ☎ 0229 31001

I have 100 maps and 50 or more pokes and am willing to swap maps/pokes or 10p for photocopying. Please send SAE.
Douglas Thompson, 14 Cosgrove Close, Peterborough. PE3 7JN.

Will do tape/tape, disc/disc, unerase files and will embed your high scores in disc games, all free of charge. Help on CP/M+, *Protext, Spellchecker, Mini Office 2,* and Loadsagames. Penpal 14+ welcomed.
Gavin Small, 54 Chichester Grove, Chelmsley Wood, Birmingham, B37 5RZ. ☎ 021 770 6937 (4pm–8am anyday).

Help wanted on *Streetfighter*. Anyone got a poke or something I could use?
Simon Lee, 1 Blyth Street, Chopwell, Newcastle Upon Tyne, NE17 7BX.

Anyone got *Fruity Frank* or *Cauldron II* to sell or swap with *Times of Lore, Beyond the Ice Palace, Nebulus* or *Ikari*? Help needed for *Barbarian II, Rick Dangerous, Cauldron, Metal Army, Auf W. Monty, The Duct, Bomb Jack, Apprentice* and *I, Ball* – TAPES! Penpals wanted. I'm 16, interested in games, movies, music (pop) comics and science. I've got a 464.
Morten Blaabjerg, LA Ringsvej 143 TTV, 5230 Odense M. Denmark.

Help required on *Marsport*.Can anyone let me have a copy of map (*AA*4) and tips (*AA*5). Will purchase full copies.
D Clark, Ashgrove, North Street, Caerwys, Mold, Clwyd, CH7 5AW. ☎ 9352 720525.

Desperately need *Bard's Tale* tape poke, also need help with *Harkyn's Castle* and getting into towers. PLEASE HELP ME!!!
Jamie Moore, 148 Tennyson Road, Poets Corner, Stoke, Coventry, CV2 5JB.

Hi! My name is Iorga Vlad and I live in Bucahrest. I want help in finding pokes for games on disk. I have a CPC 6128 and I would like penpals in England. I love 3D graphics and screen dumps, I also have a DMP 2000 printer.
Iorga Vlad, Bucharest, Aleea Somesul Rece, Bl 3, Sc 2, Apart – 29, Sector 1, Romania.

Penpals wanted for games swaps. I have *Shinobi, Silkworm, Micrprose Soccer* etc. Sure Reply!
Claudio Pistacchio, Maselli, Campagna, 152 – 70021, Acquaviva (Bari), Italy.

Pascal contacts wanted. Also penpals for 16 yr old. 15+ male or female preferred (although aliens accepted). 100% reply.
Paul, 39 Guilton, Ash, Canterbury, Kent, CT3 2HL.

Help! Have you got *Lords of Midnight* for sale. Will pay reasonable price. Tape 464.
Mr I Sear, 26 Great Chesters, Bancroft, Milton Keynes, MK13 0PD.

Help! If I don't complete Castle Brunwald on *Indiana Jones and the Last Crusade* I'll crack up. Write or ring.
Joseph J. 42 Larch Ave, Acton, London, W3 7LH. ☎ 01 740 7638.

Can anyone supply a cheat etc. for *Soccer Boss*?
W. McQuiston, 123 Jenne Rennies Rd, Dunfermline, Fife, KY11 3RD.

Penpal wanted. 12 y.o. I have games like *Bard's Tale, Licence to Kill.* Need help on *Total Eclipse, must have 464.*
David Melville, 52 Allison St, Kirckaldy, Fife, Scotland, KY11 1TT.

Anyone selling a copy of *Lords of Midnight* or *Doomdark's Revenge* (disk). Good price paid.
130 Flansham Lane, Felpham, Bognor Regis, Sussex, PO22 6BB. ☎ 0243 583495.

Penpal aged 11 – 14 wanted to swap games. Anyone got *Lombard RAC Rally for the 464 cass?*
Daniel Bourn, 41 Horsham Ave, London, N12 9BG.

Penpals wanted to swap games and cheats – tapes only. Please send lists of games, replys considered.
Arian McOonagh, 32 Grassmere Way, Lakes Estate, Bletchly, Milton
àKeynes, Buckinghamshire, MK2 3DZ.

FREE text-only adventure *Secrets Of Ur.* Send tape and return postage or £1. Tapes must be new and at least C15.
Bill Clews, 33 Beresford, Blackburn, BB1 8BG.

Help wanted for *Green Beret, Wizball, Grand Prix*1 and 2. I also have some pokes (but not many), send SAE.
Stephen Matthews, 32 Old Wicken, Castle Acre, Kings Lynn, PE32 2BN.

Wanted: Disk version of *Elite*, will pay (reasonable offer) listings printed (german only) at 30 pfennigs a page.
☎ Overseas 01049 5141 33350 pm.

Programs needed for a mag's homebrew section. No matter how bad you think it is, send it in (tape only). If you want it returned enclose SAE.
Paul Johnstone, 1 East Castle Road, Edinburgh, EH10 5AP.

English people! I'm a 15 y.o. Greek boy. I have 2 disks full of pokes practically every game ready to run and can exchange. Write to me and send 2 blank disks.
Haris Dolgiras, Patroklou 17, 41222 Larissa, Greece.

Stuck on *Dizzy*? I can help! Just send me an SAE, 20p and a letter saying which part you are stuck on or which you don't know where to drop.
The Old Vicarage, Humbleton, Hull, HU11 4NL.

I need pokes maps, cheats, type-ins and hacking progs for a hack mag. You will recieve a free copy. I'm also looking for a female pen pal from anywhere, aged 13 – 16 years. I am14.
"Hackman" Kelly, 43 Devonshire Ave, Southsea, Hants, PO4 9EB.

Can anyone help my 11 year old daughter with a Kixx game *Trantor*, either tips or cheat modes. I will reimburse all postage paid.
Mrs A Bennett, 44 Fenwick Rd, Broxtowe Estate, Nottingham, NG8 6FU.

Penpal wanted to share pokes, tips and games (*Forgotten Worlds, Target Renegade, Crazy Cars II* and more). I hjave a 6128, tape deck, Multiface 2, Star LC-10, AMX mouse and three joysticks.
Benjamin Fall, 40 Victory Rd, Subbington, Fareham, Hants, PO14 2SG.

Help wanted on: *Thunderbirds, Carrier Command, Rick Dangerous, Purple Saturn Day, Indiana Jones and the Last Crusade, New Zealand Story.* Help given on: *Time scanner, Matchday II, Run the Gauntlet, Em,lyn Hughes, Microprose Soccer, APB. AA*22 – 50 for sale. Penpals wanted to swap games and tips.
Y Pang, 12 Rheingold Way, Wallington, Surrey, SM6 9NA.

I want to find a penpal – any country – who likes football. I'm 12 and a CPC464 owner. *AA*42-44 wanted in good condition, cover price paid. Also help with *Football Director* and *Gary Lineker's Hot Shots.*
Paul Kilbride, Brynhedd, 449 Revidge Rd, Blackburn, Lancs, BB1 8DH.

Has anybody got *AA*16 or the art program from it. Also has anyone got a cheat for *Game Over* Part 1 side 2 or a *Nemesis* poke? I will pay for the mag and swap cheats and pokes. I've got loadsagames and pokes. I'm willing to swap and buy if you're over 14.
David Lent, 712 Eleanor Street, Grimsby, South Humberside, DN32 8AF.

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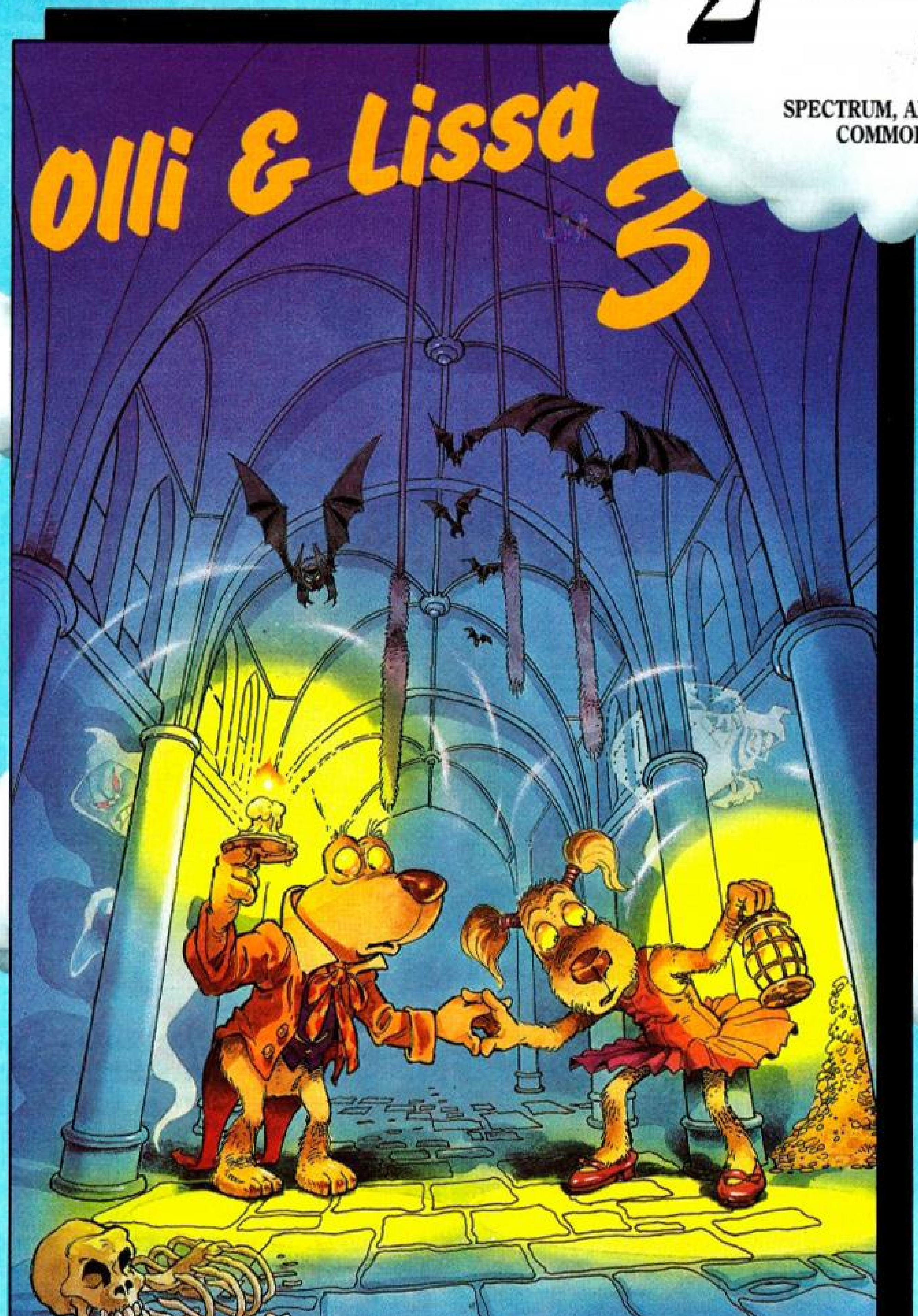
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ACTION TEST

Christmas is here - and you'd better believe it! Just look at this little lot...



● Can *Ghostbusters II* save the world in the latest blockbuster movie licence? A *Batman* beater or the spook boys' *Last Crusade*? Who ya gonna call? Page 58 of course!

AA MASTER GAME



●That's the spirit! *Ghosts 'n' Ghouls* appear on page 56. *AA* spooks its mind...



● Driving's biggest game gets bigger. *AA* test drives *Turbo Out Run*. The review's parked on page 54.



● *Operation Wolf* for the under fives? *AA* turns its guns on *Cabal* in a fight to the finish. See page 60.



● *Knight Force* storms the screens on a trail through time. For sword-fighting action turn to page 61.

ALSO REVIEWED



● Who's bad? Michael Jackson. But what about *Moonwalker*? The first CPC review's on page 53.



● *Altered Beast*, the legendary arcade, comes to the CPC. Another coin 'op classic? The gloves are off for this beat-em up-extravaganza on page



● Inner city violence is here with *After the War*. Have those Dinamic Spaniards done it again? Page 67.



● Dizzy's back in an EGG-clusive review! Can the EGG head do it again? Or, are the Oliver Twins getting EGG-sessive ? See page 66.



●Quick-draw action's here with *Pictionary*. Can it be done? For the full picture turn to page 64.

OPERATION THUNDERBOLT

Ocean ● £9.99 cass, £14.99 disk joystick/keys

Kill 'til your barrel melts. Strike with the speed of a cobra and hit with force of a thunderbolt. Smash your enemy with skill, precision and superior firepower... Your mission is to get in, get the hostages and get out.

Nearly a year has passed since you last went on the rampage in *Operation Wolf*. Now your particular brand of diplomacy – gunboat – is needed again. American civilians have been kidnapped and taken to a terrorist base deep in the African jungle. This mission promises to be your toughest ever, so you're given the option of taking a fellow psycho along for kicks. With seven locations to 'liberate', going it alone makes the Charge of the Light Brigade look like a sound tactical move.

Point and shoot, that's all you have to do. Terrorists leap out to be blown away with bullets and grenades. The screen scrolls automatically towards you or horizontally past as you stand there shooting. Larger vehicles require repeated bursts of fire or grenades to put them out of business. Simple really, once you get the feel for your gun and where its shots end up. Special bonuses are dropped in by some friend in the clouds – bulletproof jackets, ammunition, grenades, health care and even laser sighting. Shoot them as they fall and they're yours.

The levels alternate their direction. You go from advancing up a road to wandering around a base, but the difficulty always increases. There are bunkers to raid, rivers to cross, road blocks to run and camps to blow up. The final two sections have you rescuing first a plane and then the pilot. It all sounds very straightforward stuff, so why the excitement?

Well what *Operation Thunderbolt* lacks in gameplay, it makes up for in thrill-a-minute arcade action. Last year the accuracy of the *Wolf* arcade conversion stunned CPC gamers nationwide and *Thunderbolt* is no different. It looks feels and plays better than the coin-op! The graphics are just as bright, the action as hectic and the addictiveness of such a thoroughbred shoot-out is beyond measure.

Ocean has not been content to sit on its laurels and turn out a *Wolf* clone just to fill its piggy bank and empty yours this Christmas. The company has developed a two-player system that will have the best of friends at each other's throat, the worst of enemies fighting shoulder to shoulder.

An imaginary line bisects the screen centrally. When a terrorist pops into view on your side, waste him immediately (although that's easier said than done). If he's on your mate's side that's their problem as that guy won't fire on you until he crosses that line. Of course, if you see your buddy's energy bar running down then you could lend a hand, but...

Disagreements are also likely to occur over the toys you can pick up. Due to Government cutbacks they can only afford high-tech help for one of you. So if you want the laser sighting (to improve your aim) or bullet proof vest (to lessen damage taken) then you'll have to be pretty quick on the draw.

With enemy fire raining in, life can get pretty fraught. You need to keep one eye on the guy you're shooting, one eye open for special weapons and health pods, one eye on your partner and one more on you ammo. Without worries about where you're going, you can relax and just enjoy the fireworks, becoming totally absorbed in the gunplay. Staying alive, especially for the first few games, is tough, but those nice coding types at Ocean have implemented a variable credits system so the better you play the fewer the credits and vice versa.



● Save the pilot or walk home.

Operation Thunderbolt is anarchy at its two-player best. Terrorists overwhelm the screen and you, and bullets, rockets and grenades are exploding everywhere, while tackily-dressed hostages run hither and thither. As a one-player game it's no cynch, the unplayed part of the screen constantly engaging your attention, drawing you away from the real threat.

Brilliant is the only way to describe *Thunderbolt*. The graphics have been reproduced to near pixel perfection and the programmers have refined the gameplay to make the whole game even better. Its slightly (!) violent tone may upset some, but if you want to go war this festive season this is the game to fight for at the shops. Not a game for the faint-hearted, you finally get a chance to waste untold thousands of Commie pinko liberal rat finks in one long orgy of blood-soaked... (*I think we get the idea – ed!*) **TW**

SECOND OPINION

Great arcade graphics, but just another gun-totin' bash. **RL**

GREEN SCREEN
Tolerable

FIRST DAY TARGET SCORE

Complete Stage One

The Verdict

GRAPHICS **91%**
- Arcade quality.
- Arcade speed.

SONICS **63%**
- Explosion city!
- Haunting tune.

GRAB FACTOR **95%**
- Gunplay has never been more fun.
- The worse your play the more your credits!

STAYING POWER ... **64%**
- Seven different battles to fight.
- A real finger-achin' joystick-smasher.

AA RATING **89%**
- A sure-fire hit.



● Shoot those incoming rockets *now!*



● Don't shoot all the hostages or it's game over.



● Use the laser sights to improve your hit rate.

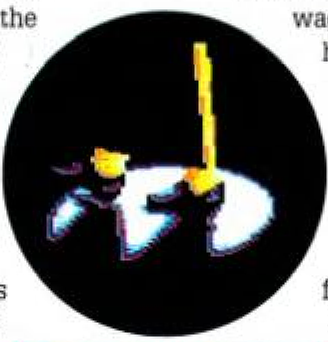
MOONWALKER

US Gold ● £9.99 cass, £14.99 disk
joystick/keys

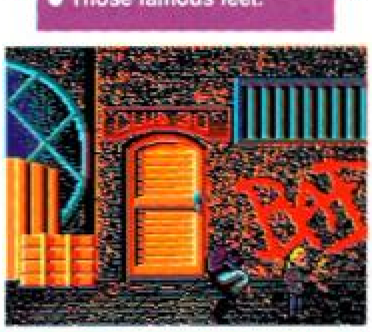
Michael Jacksons never die they simply fade away. Or that's what US Gold would have us believe. In *Moonwalker* you play the part of the world's most public recluse on a crusade against drugs. There's little violence, and when you are caught by the enemy, you fade away in shower of dust, losing hit records instead of lives.

Following the film (if that's humanly possible) Level One takes you to the studios where MJ has just finished his *Bad* video. On the lot he's confronted by a herd of mad autograph hunters and gangsters. Being such a shy, retiring soul Mikey decides to leg it.

His escape plan's from the *Baldrick book of Cunning (Vol II)* – he'll disguise himself as a giant rabbit! The pieces of the suit are scattered throughout the studio and Jacko has to collect them. Using a radar at the bottom of the screen you find the disguise, avoid baddies and make good your escape. As each bit of the costume is collected your piccy of Mike changes from that lovable weirdo into a giant rodent with big buck teeth and huge floppy ears (*wrong film – ed!*).



● Those famous feet.



● The intro screen to Level Three.

Once you've got the motorbike that takes you to the next level the game changes gear. The chase is on as drug-dealing heavies and motorised groupies pursue you around the set. The thugs have set up road blocks, and you need to get past them. In the movie, MJ looks up, sees his lucky star, and bingo he's a car! There's nowt that easy here! The star's been split into ten orbs that must be collected before transformation.

The bike is fast and ultra manoeuvreable, which is just as well as you weave in and out of side streets and between heavies. Using the radar, you track the orbs but leave the one nearest the road block till last. You can only stay as a car for ten seconds and it moves much slower than the bike. You also appreciate why young Mike has twenty disks to work through, as there are five stages to complete before this high-speed game of 'catch' is over.

Level Three is the video *Smooth Criminal*, and here Mr Nice Guy shows his true colours and starts shooting. He's back in human form to rescue friends from the evil druggies. In Club 30's, machine-toting bad guys pop up at the windows and start firing. Michael has to find a machine gun and ammunition, then trade shots. He runs and jumps out of the way of bullets, leaping onto the tables or up stairs to save his ever diminishing supply of disks, while trying to take out 30 villains.

The dealers don't hang around, so quick accurate shooting's necessary, especially as ammunition is in short supply. Moving the stick moves MJ, pulling the trigger and waggling moves the gun sight. It's a hard battle to win, as you soon get intensely claustrophobic, not knowing which way to run, jump or shoot.

The fourth and final level is the show-down with the boss drug-dealer. Your Jackson figure has transformed himself into a giant robot, and is set to shoot it out in an arena with all the heavies Mr Big can muster. You stay stationary, swinging from side to side blasting as baddies appear from everywhere. By this point you're so low on lives it pays to be cautious, because losing your last disk here means a return to the very beginning...

Levels One and Two are graphically limited by their *Gauntlet* styling, but Three and Four make amends. M J moves like his human (well, almost) model, leaping over shots and onto furniture. Each level is previewed with a screen to depict the film, giving the game a fuller feel. The best graphical moment comes at the very beginning, where MJ's feet and famous sparkly socks walk across your screen before giving a twirl. Completely superfluous, but very pretty.

Being based on a musical film puts *Moonwalker* in an odd position, the sounds justifying the game. Attempts at four of Mr Jackson's ditties accompany the levels, of which only *Smooth Criminal* pays dividends. Two and Four have pleasant but unrecognisable songs, while the unfortunate Level One gets the baddest version of *Bad* imaginable.



● In Level Four MJ becomes a battle droid.

SECOND OPINION

A strange film, and an even stranger licence. Looks good, but makes virtually no sense at all. RL

GREEN SCREEN

Radar gets hard to follow.



● Michael seeks out his rabbit disguise.



● Gunfighting action in Club 30's.

Moonwalker succeeds as a compilation of games bound together by an anti-drugs narrative. None are particularly difficult, but Levels Two to Four all exhibit exciting tendencies. Twenty lives make the whole epic attemptable in one go, and that's important. The dull first level, needs more baddies and a smaller map. Once past there, the pace picks up and you find yourself in Wacko's weird world. Odd but fun. TW

FIRST DAY TARGET SCORE

Reach Level Two

The Verdict

GRAPHICS 76%
□ Great moments.

SONICS 72%
□ *Smooth Criminal* sounds brill.
■ *Bad* sounds, well, bad.

GRAB FACTOR 21%
■ Level One is dull.

STAYING POWER ... 79%
□ Twenty lives.
□ Three good games.

AA RATING 78%

□ A strong game from a strange licence.

TURBO OUT RUN

US Gold ● £9.99 cass, £14.99 disk
joystick/keys



● Bridges too, just like the real thing.



● Watch out for that overheating turbo.

Get your motor running and head out on the highway, lookin' for adventure and whatever comes your way. And what a motor it is – a three litre V8 twin-turbo beast, encased in glowing Italian racing red. The world's fastest car is here once again, this time in for an ultra-fast *Turbo Out Run* across the US of A.

As Andy Warhol once said, "One day everyone will play *Out Run* for 15 minutes". He was right – the machines in their various guises have been one of the biggest arcade hits since *Pac Man*. The first home micro conversion, however, left a few little things out. Like gameplay and speed. It was acclaimed as the only driving sim in the world that could be played by post. Following this debacle, *Turbo* had a lot to live down.



● A seaside drive in Florida.



● Oooooops!

Your Ferrari waits at the start. There's the arcade music tweeting away in the background and the New York scene all around. At the bottom of your screen sit two dials, one for speed and one for revs. Above are the two most important gauges of all – time and overheat. Time limits are tight, so care has to be taken to ensure a finish if not victory. An overheat meter is needed as such a tightly-engineered power unit soon starts cooking.

The clock ticks down. Hit the fire button for turbo boost, and you're off. The pick-up from a standing start is impressive and soon your pootling along at top whack. The cars in front don't really matter, just give them a quick nudge with your £600,000 baby and they'll get the message that you're serious.

There are only two opponents, the clock and a mysterious grey Porsche 959. Beating the clock's a must if you want to continue, while with the Porsche it's a question of pride. If he gets to the end of the stage before you then the 'Chick' (*I heard that! – Broadley*) jumps out of your car and goes to ride with him until you win the another stage.

That's the storyline. You blast through America, heading for California via Miami. Each section has a different backdrop and different characteristics. Pittsburgh, for instance, is snowed under, and this has an often terminal effect on cars taking hairpin bends at 200mph. Of course, you can always use one of the three pit stops to fine-tune your motor for the conditions ahead.

The turbo comes into its own on the later sections. Blasts of power are needed to run road blocks and smash boulders that have fallen in your path. Of course, if the turbo's over-used then it'll overheat and be out of commission for a few seconds, leaving you straggling as each impact slows you down.

The graphics are good – not stunning, but clear. The car itself is superb, but some of the ancillary car sprites and side buildings appear with an alarming suddenness. The road is true to its arcade parent, not smooth but visible, as it would look at 200 mph plus, one assumes.

The car responds a tad sluggishly to directional adjustments, an effect that's increased on poor surfaces to represent loss of traction. These car characteristics take a while to get to grips with but allow you to develop a 'feel' for driving. Nudging other cars out of the way helps catch the Porsche and bimbo's eye, but here everything becomes confused with the car behaving differently after every knock.

The lack of any sound effects makes the game strangely remote, too. The arcade accuracy of the tune is undeniable, but screaming tyres should accompany sudden-arm wrenching corners, and not a pleasant little jingle. *Turbo* generally leaves you feeling quite distant. With all the attention having been lavished upon the quality of the conversion the magic ingredient of addictiveness has been lost. Even the tight time limits don't really make you want to race.

Turbo is a thorough and convincing conversion of a classic arcade game that is now beginning to show its age. The results of this are clear even in the conversion of the updated *Turbo Out Run*. Everything works but there's nothing there to send your pulse racing. In a world of car games, the original pacesetter and its offspring now look a little long in the tooth.

A quality conversion is no longer enough these days, and a game needs something special to make its mark. *Turbo*'s strength is supposed to be the car on which it's based, but over the last year there have been a plethora of F40 (*Crazy Cars II, Twin Turbo V8*) based games, and the world's most exotic hardware may not now be enough... **TW**

SECOND OPINION

Not the disaster its predecessor was. Nevertheless, recent racing games leave it stalled on the line. AW

GREEN SCREEN

Some stages get harder.

FIRST DAY TARGET SCORE

Visit Chicago

The Verdict

GRAPHICS **74%**
☐ Great car.
■ Vague collisions.

SONICS **50%**
☐ 100% for the tune...
■ ...but no effects.

GRAB FACTOR **38%**
■ It never gets exciting.

STAYING POWER ... **64%**
☐ Loads of roads.
■ But will you want to race them?

AA RATING **64%**

☐ Competent but dull.



● A quick blast in the desert.



● Accelerate and send those barrels flying.

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GHOULS AND GHOSTS

Capcom ● £9.99 cass, £14.99 disk joystick/keys



A grave situation has arisen. In fact the people in the graves have risen too. A bunch of inter-dimensional nasties, who go by the epithet of the 'Evil Ones', have returned to Earth and are commanding the armies of *Ghouls and Ghosts*. The first part of their cunning plan involves the kidnapping of Princess Hus, girlfriend of that knight for a day, Arthur.

Arthur is someone you may have met before, way back when people like *Strider* weren't even a blip on their programmer's monitor. He starred in that early Elite classic *Ghosts 'n' Goblins*, where he hacked, slashed and generally killed as many supernatural beasties as he could lay his sword on. That battle was against the 'Evil Ones' too, so this time it's for keeps.



● Shoot the vultures before they swoop.

Ghouls is a straight sequel, the gameplay and the plot remaining almost identical to *Ghosts* with just a few new ideas and tricks being brought into play. Arthur has to cross a horizontally-scrolling landscape within a set time limit, throwing weapons in front and above to clear his path of spectral beasties. Monsters rise out of unmarked graves, mutant plants spit seeded death and every now and again an ultra-big super-ghost ambles on the scene. Dodge, shoot and move are your only options, as you cross bridges, castle battlements and cornfields.

As a player, there aren't many courses of action to choose from – but the right one has to taken at the right moment, or you're in big trouble. Moved by simple joystick commands Arthur runs, jumps and ducks. All you have to do is learn the landscape and it's a cakewalk. Once you know where a bridge collapses, a vulture lives or ghosts emerge, life becomes a whole lot easier.

There are five different levels for you to conquer, each featuring a number of restart points. Level One starts you in field hot on the trail of the Evil Ones' castle. Ghosts are pouring out of the ground and all you've got is a sword – well, thousands of them actually – to defend yourself. Luckily you're clad in shiny new armour that can take one direct hit from a baddie before it disappears, leaving you in boxer shorts. Embarrassment will be the least of your worries, though, when a horde of blood-sucking turtles are breathing down your neck...



● Kill this guy to finish Level One.

Occasionally the undead you make dead leave you a little pressie in the form of points scoring, extra armour or a more heavy-duty weapon: throwing axes, deadly frisbees and short range magic grenades are but a few. The landscapes determine the best strategies. Castle sections require a lot of ladder-climbing which has to be timed perfectly, open ground involving more pit-jumping and running over hillsides and buildings.

That's all there is to the game – which in many ways is its strength. Essentially a simple concept, it seeks to attract you through the trickiness factor – sheer volume of opponents. The graphics reflected this in the original game – bold and straightforward, artistry sacrificed for accessibility. *Ghouls* is a sequel which follows in much the same vein, with basic sprites and strong, straightforward backdrops. Yet even *Ghosts* looked a sparse and unsophisticated in its day, and with *Ghouls* it's doubly the case. The graphics look as if they were drawn out three years ago.

Yet with an intentionally quirky theme tune to help things along, *Ghouls* almost works, being both addictive and fun to play. The poor graphics do, however, put paid to any long-term appeal. The selection of weapons and 'second chance armour' take the game that much further – but not far enough. **TW**

SECOND OPINION

The graphics are 'ghastly' in all the wrong ways. Still quite playable once you get into it, though. **RL**

GREEN SCREEN

Green ghouls look fine.



● A big, bad Level Five guardian.



● Get hit once and you lose your armour.

FIRST DAY TARGET SCORE

Finish Level One

The Verdict

GRAPHICS 36%
■ Unsophisticated sprites.

SONICS 62%
□ Fun theme.
■ Average spot effects.

GRAB FACTOR 61%
□ Curiously, fun to play.
■ Lacks visual appeal.

STAYING POWER ...56%
□ Five tough and long levels.
■ Tries to be cute but fails.

AA RATING 49%

□ Fun but very limited.
■ A graphic farce.

ALTERED BEAST

Activision ● £9.99 cass, £14.99 disk joystick/keys

The foetid smell of death hangs in the air, and the taste of blood sends you into kill frenzy. But that's only natural because you're an *Altered Beast* and it's time to hunt.

Raised from the dead to serve an alien god, you've been given the power of metamorphosis and become your master's crushing, vengeful fist. Nelf, your god's sworn enemy, has caused this disturbance and you must make him pay his pound of flesh – plus interest!

Zeus's gift is a terrible and frightening power indeed. The collected spirits of dead foes empower you to assume new and horrible forms. Mutant magical monsters that will slaughter Nelf's hell-spawned armies.

Lightning rents the heavens and you stand ready for battle. A journey into the depths of the underworld will follow, but first you must fight your way to the entrance. You only punch and kick to begin, most of your blows lacking enough power for quick kills. So accurate in-fighting is needed, if you are to survive long enough to collect 'spirit balls' and change into something much more powerful.

Level Two is the entrance to the underworld, and while you became a boulder-throwing wolfman in Part One, here you transform into a flying were-dragon with napalm breath and white hot armoured skin. Each level features a different beast, but it is a form that is taken from you by Nelf at the end of each section. You start every level as a mere mortal. This may sound unfair, but the power you have at your claw tips as a monster is so awesome this restores a sense of balance.

The monsters you have to kill are a pretty sorry bunch. Even when your face flashes and you become a hideous, mutated beast, they still stumble on, oblivious to the fact that you're hungry and they're lunch! Purple zombies fall into piles of rotting carrion, hell hounds disappear as 'spirit balls' and even the end-of-level nasties just plug away until they die in a cloud of grey smoke.

The graphics for *Beast* are of a quality that is at the same time inspiring and irritating. Warriors are statuesque and golden with a classic look about them. Even in the thick of combat they maintain an athletic poise, swinging a low punch, or tucking as they jump. However it's the intervening points between these poses that gets the goat, as they simply don't exist! The *Beasts* have a repository of moves that can be counted on a very few fingers, resulting in jerky actions, because when they do move it's slowly.

The scrolling background too suffers from sudden leaps rather than gradual progression. It's complex and colourful scenery that's being moved around, but that's no excuse for a pitiful update rate. The feeling that too much is being done is overwhelming.

Music pumps out of the CPC the like of which even Zeus has never heard before. Punchy and menacing, it temporarily takes your mind off the gameplay – with the help of the great sound effects.

The attempts at arcade accuracy are where the game goes wrong. The main *Beast* sprite lacks one of the main fighting moves present on the arcade, and in a game where the enemy is beaten into surrender, you need all the moves you can lay your paws on.

Beast is for games what Stonehenge is to powered flight: a novel idea, years ahead of its time and technically excellent in parts – but it'll never get off the ground. Terrific sprites and music aren't enough.

The Greeks who followed Zeus, thought the crime of hubris – thinking oneself on a par with the gods – was fatal. Activision tried to create an *Altered Beast* and has spawned a beautiful but unruly monster. **TW**

SECOND OPINION

Nice music, and the graphics would be great too if they moved properly. Plays, alas, like an absolute dog. AW

GREEN SCREEN

Hard to see sometimes



● Level Three is tough as a mere mortal...



● ...but as a werebear, breath weapons even it up.



● To kill zombies, just punch low and kick hard.



● Two-player action on Level One.



● On Level Two become a fearsome weredragon!

FIRST DAY TARGET SCORE

Finish Level Two

The Verdict

GRAPHICS **92%**
- Huge sprites.
- Classical backgrounds.

SONICS **96%**
- Awesome soundtrack.
- Original fighting effects.

GRAB FACTOR **43%**
- Never really gets going.

STAYING POWER ... **21%**
- 'Jerky' scrolling kills gameplay.
- Too slow.

AA RATING 50%

- A flawed, but valiant effort.
- The lack of speed slays the beast.

GHOST-BUSTERS II

Activision ● £9.99 cass, £14.99 disk joystick/keys



● On Level One and a slime-collecting mission.

When Egon Spengler takes a lady out for a night, it's something special. On New Year's Eve for example, who does he bring out to party but the Statue of Liberty! As if that wasn't enough, he then had her fight a battle royal against an invading army of spooks on Broadway. How and why can he do such things? Not by Heineken, not by any mechanical means for that matter, but by slime power – and because he's a *Ghostbuster II*.

Now the team haven't exactly been flavour of the month in Manhattan Central since their run in with Mr Stay Puft, when they took the top off a multi–million dollar apartment complex. The ensuing legal hassles made their supernatural adventures look safe. They were bankrupt, discredited as frauds and reduced to working on tacky-wacky TV shows. That was until now, when the fickle New York public finds it's got a slime problem of apocalyptic standards.



● Send out the population to gather ghost slime.

There's this Carpathian chappie who's taken a liking to living and won't stay dead. Vigo, for it is he, like all good ghosts just wants to have fun. Unfortunately, a spook's idea of a good time involves the seventh plane of hell and a short meeting with a guy carrying a trident. So once again the boys in the boiler suits are called back into action, and this is where the fun starts.

First and foremost in *Ghostbusters II* is a trip to collect some slime. This stuff has been slowly growing in the sewers for months. It feeds on human emotion and in such a happy, cheery city, it grows real quick and real mean. The authorities, however, still refuse to help the *'Busters* to get a sample, and so they set up a fake road block and drill into a subway tunnel. This is where you join the action.

A 'volunteer' has been selected to go down the hundred-foot air shaft, past a whole host of ghosts, ghouls and things that go splat in the dark. You have to guide the saviour of humanity down on a rope, armed to his 'bustin teeth with proton beam rifle, PKR bombs and shields. Simple? You've got to be kidding!

All the way down are different kinds of spirit intent on stopping this brave attempt. Hands come out of the wall and grab you, traditional sheet ghosts float up sapping your courage, slimers spit slime and saw monsters try to cut your lifeline. To make matters worse, the old air shaft is in a bad state of repair and girders jut out, forcing you to swing past.

On the plus side are refills of ammunition – very necessary, as being surrounded by the undead makes you very light on the trigger finger! If you get spooked too often, your *Ghostbusters* face on the score panel gets gradually more terrified until you let go of the rope – not really a good idea as the fate of the world hangs on it too. Bottles of elixir are on hand to give you some Dutch courage, but these are few and far between, so timing is important as well as speed.

Items are collected by landing both feet over them. But as if things weren't bad enough already, some fool has also dropped your slime scooper down the shaft too! It's split into three parts so you've also got to hang about (literally) to pick this up as well. You have got three lives, so hang loose!

Once you've managed to fill your beaker with slime, then the analysis can begin. The results are not good. Proof of the impending dis-



● Lady Liberty leads the way on Level Two.



● Use the three weapons to kill the ghosts.



● One of the digitised storyline pictures.

aster, if you needed any, comes when you discover that ghosts are flying down Broadway and that the Lady Liberty is full of slime and walks!



Taking the symbolic tank, you stride to the rescue and find out why *Ghostbusters II* is a Mastergame. The second section is a scrolling spook-em-up of mind warping subtlety. You guide the First Lady of America down the road as spectral nasties swarm in from the right. You shoot flame from a multi–directional fireball, a fire that burns on ghost slime. The more shots you fire the lower your supply of slime gets, so obviously more is needed. By now you have the population on your side and they volunteer to rush out from the feet of the statue and grab the slime that the ghosts become when they're shot.

You control the people, sending them out to get supplies with a quick stab of the space bar. But Vigo is also sending his zombie minions out to stop the slime collectors, so you've not only got to blast the spooks back whence they came, but move the fireball into a position to protect the good citizens of the Big Apple. You end up watching umpteen things at once, and trying to control both citizens, a 152ft high statue and a spook-blasting flame all at once.

The third and final level takes you to face Vigo mano mano in a city museum. You must destroy the ghost at the same time as rescuing Oscar, a baby kidnapped at the beginning of the movie. Each *Ghostbuster* is controlled seperately, and a battle of hair-raising proportions is the result as the movie and the game reach their final stages.

Frighteningly good graphics immediately set this game apart from everyday film licences, the statue being the centrepiece. It captures a cartoonesque quality that manages to convey the comic aspects of the movie excellently. Other *Ghostbuster* licences have stressed the darker side, relying on sombre colours to suggest terror, here you see it slowly etched onto the the *Busters* face during the first level.

The whole project is put together as a spoof movie. The programming credits come film-style, and each section of the game is introduced with a brief summary of the plot and digitised pictures. That tune – you know, the one you can't help humming – is there too, as is the '60s hit featured in the movie. It's a multi-load, but being a sequential game of only three sections not that painful to live with.

The Oliver Twins have bought all their expertise to bear on this project. Great gameplay and graphics are slightly spoiled by the easieness of Level One, but at last the *Ghostbusters* have come of age and star in a game worthy of their name. Humour pervades but not at the expense of action. If you want great gaming fun, give the *Ghostbusters* a call – *they're back in business.* TW

SECOND OPINION

One of the best film tie-ins since... er, Batman. Follows the usual pattern of 'scene-from-the-film' stages, but captures the atmosphere superbly. AW

GREEN SCREEN

Green slime looks fine.

FIRST DAY TARGET SCORE

Get to Level Two

The Verdict

GRAPHICS 94%
- Convincing characters.
- Digitised loading pics.

SONICS 91%
- Excellent film music.
- Fun 'splat' effects.

GRAB FACTOR 83%
- Very easy Level One.
- A real good-looker.

STAYING POWER ... 61%
- Level Two is well 'ard.
- ■ Not hard enough, unfortunately.

AA RATING 94%

- Even better than the movie.

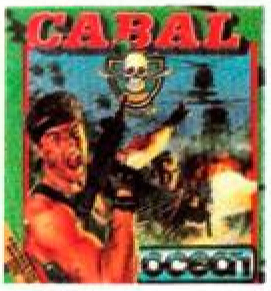
● Three weapons:
1 A proton beam rifle for killing spooks
2 PKR Shields stop ghosts touching you
3 PKR bombs are used to stop the rope cutting spider ghosts

The weapons window shows your current weapon and remaining ammo.



CABAL

Ocean ● £9.99 cass, £14.99 disk joystick/keys



"Kill 'em!" That sets the tone for *Cabal* and is the option that starts the game. No beating about the bush here, it's a game that's based soley on one man's destructive power. Dropped behind enemy lines his mission is simple, mass murder on a scale to shame Jack the Ripper himself.

Cabal looks like *Operation Thunderbolt* for the under fives, but don't let that fool you. Cute carnage on a grand scale is just as much fun as the grow'ed up kind. This time your guy stands bravely/stupidly in view, able to run left or right but not away. A cursor floats about, moved by pulling the stick diagonally, and with limitless bullets you can just spray the screen as you line up each shot.

The scenes he fights over are small urban areas that get more congested with buildings and people as the levels progress. Luckily the little peep' can hide behind walls for cover and the bullets travel relatively slowly, so you can get out the way. As everything comes down and the action gets really heavy, the amount of lead in the air breaks every regulation in the Health and Safety Act. This has the unfortunate effect of demolishing most of the on-screen structures which you'd like to cower behind, so you've got to stand up for yourself and fight like a sprite.

The enemy soldiers come in three main forms, close, closer and too close! They sneak on from the side of the screen or out of buildings, in one of three ranks. The closer they are, the larger the target and the fewer the points but the more dangerous their return fire. So get your priorities right – you can, after all, only score points if you're alive.

To begin with *Cabal*'s armed with a poxy single-shot gun, which ain't a lot of good if you want to lay waste to whole armies. Luckily, the chaps in green he's fighting have a sense of sportsmanship and occasionally toss him an much improved weapon. These are either grenades, a bazooka or a machine pistol – and then things really liven up. Grenades take out tanks and knock down buildings, bazookas repeat-fire, blowing away anything they hit, while machine guns are just wild. Your fire rate doubles and the shots are more powerful, but they only work for ten seconds before you run out of ammo. So bang away when you've got one!

Cabal has five lives to begin with and 12 grenades. There are another two lives on offer in the 'continue' credit after you finally die. Still, even this many miraculous recoveries are far from enough to let him finish his mission, because even when you've the measure of the troops there are the end of level vehicles to take out, and they ain't wimps. Helicopter bombers, tanks and even submarines are out to out a stop to your jaunt.

Cabal is an excellent example of a game of stunning simplicity, that's programmed well and therefore a joy to play. You wouldn't want to spend hours blamming away, your trigger finger couldn't take it! But for those moments when you want some fun that leaves the brain in neutral but takes the reactions to their limit, it's perfect. Understated graphics and simple sounds don't hinder the pleasure that comes from surviving against overwhelming odds – at least temporarily. **TW**

SECOND OPINION

Cabal comes up with the goods. Armed with unlimited ammunition, machine guns, bazookas and grenades the bad guys don't stand a chance. Great fun when you're in the mood for a massacre, but not the sort of game to keep you enthralled for hours. **AW**

GREEN SCREEN

More difficult but playable.

● The fourth stage of Level One, a real toughie



● On Level Two enemies come from everywhere – even underwater!



● Kill enough of the blighters and everyone plays dead.



The Verdict

GRAPHICS **65%**
- ☐ Numerous foes.
- ■ Little colour.

SONICS **52%**
- ☐ Good thene tune.
- ■ Dull effects.

GRAB FACTOR **92%**
- ☐ Instant machine gun fun.
- ■ Simple game mechanics.

STAYING POWER ... **72%**
- ☐ Five levels.
- ■ A mite to simplistic in the long run?

AA RATING **77%**

☐ Good, clean, murderous fun.

FIRST DAY TARGET SCORE

19,237 points



● Life's hectic, even on Level One!



● Shoot the obstacles to clear a field of fire.



● As the battle rages...



● ...the buildings are destroyed.

KNIGHT FORCE

Titus ● £9.99 cass, £14.99 disk
joystick/keys

When Titus promises to give you a screen full of game you'd better believe 'em. *Knightforce* opens with two of the most stunning loading screens ever seen on a CPC. Using Titus's overscan technique, the monitor's filled from edge to edge with gothic graphics. But it doesn't stop there, they actually manage to cram 'full' screens into the game as well. Combine this with excellent animation and detailed backdrops, and you know you're in for a pixel feast. But how does it stack up as game?

Knight Force takes the form of an arcade adventure. Fair Storm, the hunky hero, has to track down Red Sabbath's clones who are



● Just part of the superb opening sequence.



● Face to face with the wand-waggling wizard



● Your trusty blade versus a mechanical monster.



● What would a gothic knight make of New York?



● The four stone 'Dolemen'.

scattered through time and destroy them. Otherwise, the evil wizard will work his craft and erase the magical land of Belloth from the corridors of time.

Time jumping is a simple affair once you know how. Go to the four stone 'Dolemen', rattle some beads and as if by magic you've changed century. The oracle has narrowed the field down to the four most dangerous clones. One's in Pre-history, one's holed up in modern New York, another's hiding in a futuristic space city, while the fourth replicant has taken refuge in a fantasy world. The order in which you visit them is up to you, but they must all be overcome if Belloth is to survive.

The mighty Fair Storm is a pretty special knight, but a particularly weak one. He can jump huge distances – it's the safest and fastest way to move – but only take a few hits before he's pushing up the daisies. He has only a limited number of sword strokes to slay folks with, so you know split second timing and luck are going to play a large part in your near future.

The Stone-age land is populated by a host of Neanderthal cavemen – refugees from *Barbarian*. They grunt a lot and lash out with their clubs, but are very vulnerable to certain strokes of your blade. New York pits you against a wickedly fast female gang leader who would make Tyson think twice. Future world features some nasty robots and strange spring creatures, while in Fantasy land you need plain good fortune to avoid being bitten in the head by a lunatic dwarf.

Your object is to kill the clone wizard and all his cronies in a particular zone, then grab part of a magic amulet that will stop Sabbath taking over time. You must top all the bad guys on the level first, then take out the wizard clone; a tall order at first, but it's all a matter of technique. Certain creature/creations have different weak spots and these can only be discovered by fighting and dying countless times until you get that one lucky shot.

The whole game has that *Barbarian* feel, with a limited variety of monsters but stunningly accurate swordplay action that brings combat scenes to life. The similarity's futher enhanced by the use of the flick-screen design of the game, each one loading seperately. The characters move very fast and henceforth appear smooth and fluid in their actions. Impressive is to small a word for it (*stick to impressive – ed*).

Yet even with four different sections to explore the first-time player is put off by the sheer toughness of all the opponents. They have to be struck cleanly in the exact spot or they don't die, whereas they seem to be able to whack you whenever they please. The limited instructions don't help much either, you know why you're risking your life but given few clues as to the art of survival in the strange worlds you visit. With only one life and little energy to spare you die too suddenly to even begin to figure out what to do.

Death results in a return to the 'Dolemen' statues and a repetition of the whole process. Disk users get a high score table but have to route through it every time they die, even if there's no chance of them etching their name on the board. A hack and slash vet' might be able to cut it here, but the average gamesplayer with normal reactions – like myself – stand no chance whatsoever. The whole package being ruined by overly difficult gaming and too little time to assimilate what's happening.

Titus seems to feel that an awesomely good looking game has to be correspondingly tough, which is a shameful waste. *Knight Force* looks too mouthwatering to miss, but a few quick trips back to the start will have you cursing and confused. *Knightforce*'s a great rolling slide show of of games screens for artists to admire, but a continuous *Knight*mare for gamesters. **TW**

SECOND OPINION

All very pretty, but what about the game? You die too easily and there's too much disk access. What's the point of having pretty pictures if you spend most of your time loading between them?
RL

GREEN SCREEN
Dark but clear.

FIRST DAY TARGET SCORE

40,000 points

The Verdict

GRAPHICS 99%
- Phenomenal.
- Awesome.

SONICS 35%
- Where's all the music gone?
- Fun spot effects.

GRAB FACTOR 72%
- The graphics demand you play...
- ...the game forces you to stop.

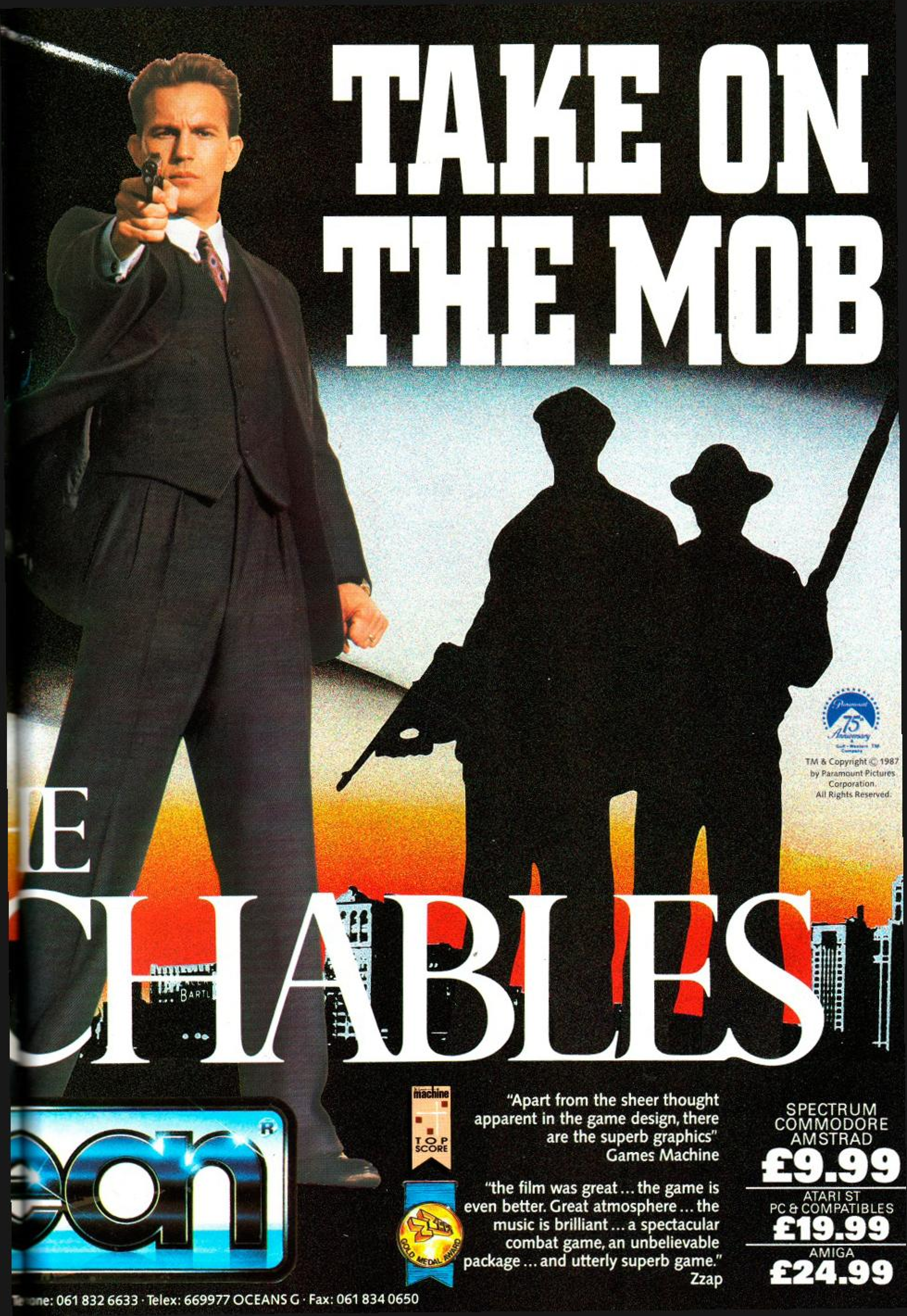
STAYING POWER ... 54%
- Very hard going.
- There are techniques to learn.

AA RATING 70%

- Breathtaking graphics in a frustrating game.

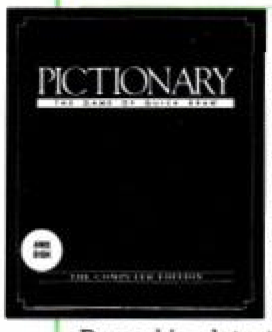


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PICTIONARY

Domark ● £14.99 cass, £19.99 disk joystick/keys



Bet you can't draw a picture of 'Unanimous'! How about 'Permanent Press', then? Tough isn't it? These are the kind of challenges that face any would be Pictioneer, which – before you ask – is anyone who's playing Domark's latest board game conversion, *Pictionary*!

The original *Pictionary* was a word-based charades game, where you went racing around the board not answering questions but sketching words to be guessed by your team. The trouble was that you had just one minute in which to produce a legible picture that used no words, letters, numbers or written symbols. Millions of people went half crazy trying to define 'caffeine' and 'grandfather' with pen and paper.

But how could such an involved game be bought to the computer? Domark's answer is a custom designed quick-draw art package.

SECOND OPINION

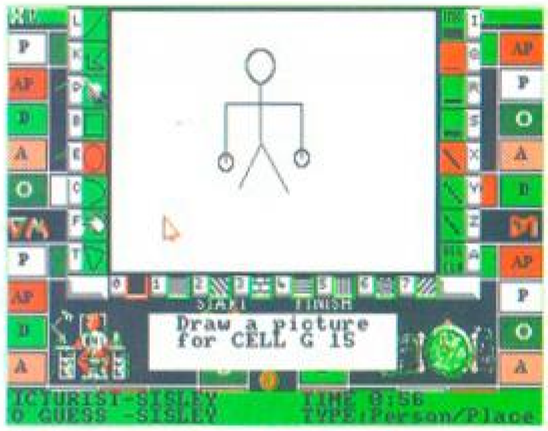
If this was sold as a genuine art package I'd be horrified, but as a game it's quite a laugh for a crowd. Looks great, but then at that price it ought to. **RL**

GREEN SCREEN
Picture perfect

Board and pieces are shown on-screen, and when the time comes to sketch out a word a canvas unfurls for you to fill with your semi-intelligible scribblings.

Playable with any number of people/teams from one to four, the aim is to finish first in a chase around the board. Either everything can be looked after by the computer, or you can share in the workload yourself. Team play's most fun, given players' total inability to agree over what 'that circle' means (try guessing the words without looking at the captions and you'll get the general idea).

The time limit is up to you, as is the the choice of picturist – the CPC does the drawing if you're playing alone. This drawing



● Drawing names is hard – this is Muhammad Ali!



● The computer is even better at art than Rod!



● Adam's feeble attempt at an elephant. African or Indian is what we want to know?

stage is where *Pictionary* stands head and shoulders – possibly torso too – above other 'game' conversions. There are rubber band lines to bend, ready-made squares to stretch, circles that can be squashed and triangles – all there to help you draw quickly. It's even possible to fill in pictures with a variety of backgrounds to help that unfortunate soul who has to try and decipher what exactly you mean by two lines and a cube. (Eat yer heart out Mondrian!).

The word which you have to describe is determined by a set of colour-coordinated cards which are divided into categories: person or place, object, action, 'difficult' and 'all-play'. The computer tells you to look up cell G7, say, and there's your word. Using the joystick you guide a pointer first to the type of line/shape you want and then put it on the 'paper'. The fire button starts or stops a line, as well as being used to determine which function you want. Using the cursor keys is more accurate but takes too much time in a game situation. The whole package is very friendly, which means that you won't be limited just to crude cartoons and crossings out.

You can of course always cheat, because to make maximum use of the machine, you have to say whether the word was correctly defined or not. But even the slightest deception destroys the whole point of the game. Your aim is to have fun and maybe win in the process, not to achieve victory at any costs.

The major drawback is the dependence of the game on team play for it to be fun. The real enjoyment arises from the interaction of comrades who completely misunderstand each other. Then *Pictionary* takes on life of its own and becomes as much a test of friendship as of artistic skill!

Pictionary ought to be hindered by the complicated nature of the art package, but that actually makes it more fun. The very fact that nobody can draw fast enough is a great leveller. It may mean you can't play the game with the whole family – the Aunt Mabels of this world never will come to terms with an joystick-driven art package – but between clever computer types the pen will be as mighty as any laser cannon. And you have to be quicker on the draw, too. **TW**

FIRST DAY TARGET SCORE

Draw something recognisable

The Verdict

GRAPHICS 90%
- Brilliant custom art package.
- Good board game tie-in.

SONICS 25%
- Twee tune.
- Just blip effects.

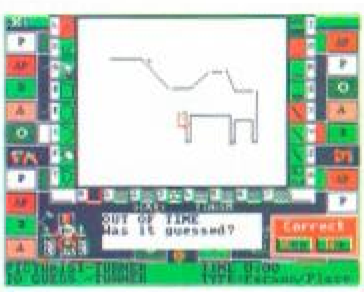
GRAB FACTOR 83%
- Charades with a joystick.
- Great intro to art packages for novices.

STAYING POWER 72%
- Thousands of things to draw.
- Best played in teams.

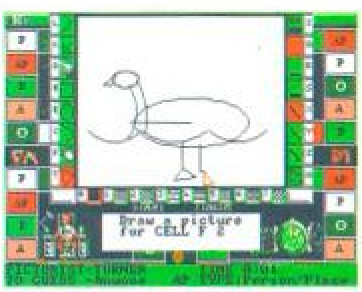
AA RATING 73%
- A board game, not a bored game.
- Quickdraw fun for all, but pricey.



● The main game board.



● Rod's attempt at a camel.



● Brilliant swan pic by Trenton.



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ACE MAGAZINE • DECEMBER 89

FANTASY WORLD DIZZY

Codemaster ● £2.99 cass only joystick/keys

Dizzy has managed to get himself into hot water again. The hard-boiled adventurer is in a right pickle, for not only has he been captured by an evil wizard and slung in the can, the baddies have also poached his true love Daisy. (*Hang on, methinks I detect some outrageous pun-making – ed.*) For the moment he's been left to stew, but soon he's going to be in for a real grilling. They're sure to make him crack (*enough – please*) if he doesn't manage to hatch a scheme to scramble out. Its no yolk, for he risks being fried, powdered and subjected to various other unsavoury ways of going to that great big omelette in the sky. He'll just have to soldier (*aaarrrggh!*) on and whisk Daisy away, curry her to safety, and if possible build up a big enough nest-egg from the wizard's treasure to shell out for that little cottage in the country where the couple can live happily ever after in eggstacy... (AA *is looking for a new Tech Ed – apply to the usual address...*)

SECOND OPINION

They've done it again! just when Edwina thought it was safe to show her face in public, the Oliver Twins put together another stunning EGG-stravaganza to torture the nation. EGG-cellent stuff. (You're fired too – ed.) TW

GREEN SCREEN

Dizzy looks just as good in green.

Fantasy World Dizzy is the third in the popular series of cartoon style arcade adventures from the Oliver Twins. Each game, although having essentially the same gameplay, has seen an improvement in the mechanics of the program – *Fantasy World Dizzy* is the best yet.

A neat menu system has been created, offering greater flexibility when handling objects. There's a lot more text in this game too. Each location is named, often giving vital clues for solving the problems encountered there. As well as Daisy, several other 'yolk folk' have been introduced into the game. These characters offer objects and advice to our hero, and inject a lot of humour into the game. Probably the greatest improvement to the game, though, is that *Dizzy* Three has three lives instead of previous one. It's a good thing too, cos you're gonna need 'em!

Dizzy starts off being kicked into the dungeon by his gaoler, a hideous wart-faced troll. The troll won't let our hero pass – promptly booting him back in if he tries – but can be bribed to offer an important litte titbit of information. Once you've escaped via the backdoor, the whole fantasy world opens up – and the puzzles are more devious than ever.

Graphically, the game offers nothing new over the usual *Dizzy* format. The Neil Adamson backgrounds are drawn well enough, but are nevertheless a straight port from the Spectrum version. The game suffers musically, too. The David Whittaker tune slows down alarmingly in places, and isn't a patch on the music in *Treasure Island Dizzy*. However, once you press that fire button (and hit the Music Off option), all that is forgotten. The gameplay makes up for everything, drawing you into a complex plot of magical dragons and mysterious castles.

The Yolk Folk, too, are great caricatures. There's Denzil the dude, Dylan the hippy, Grand-Dizzy and the lazy egg Dozy. When Dizzy approaches one of these characters, he enters into a wittily-scripted conversation. It's touches like this that really make a game stand out.

Fans of the energetic egg-head won't be disapointed with the latest *Dizzy* adventure. The puzzles are more cunning than ever, but are counterbalanced by the addition of more lives, which encourages experimentation.

It might be only £2.99, but don't let that put you off. *Fantasy World Dizzy* is better than many full-price releases. A must on anybody's Christmas list. **AW**

FIRST DAY TARGET SCORE

Collect 18 coins

The Verdict

GRAPHICS **65%**
- ☐ Well-drawn graphics.
- ■ Backgrounds are Spectrum conversions.

SONICS **49%**
- ■ Not one of Whittaker's best.

GRAB FACTOR **93%**
- ☐ Instant appeal with a well-known theme.

STAYING POWER ... **87%**
- ☐ If you manage to complete the game, try again but collecting all the coins.

AA RATING **89%**

☐ The Olivers reach *Dizzy* new heights!



● Dylan is too spaced out to tell you anything, what a rotten egg!



● Dizzy and the Beanstalk.



● Dizzy takes a paddle.



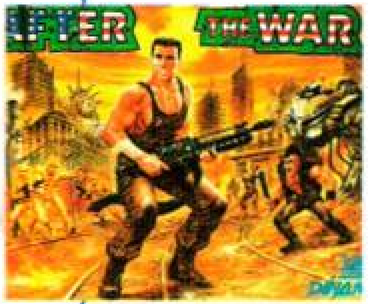
● Just like the fairy tale!



● *Fantasy World*'s Aussie equivalent.

AFTER THE WAR

Dinamic ● £9.95 cass, £14.95 disk joystick/keys



New York, New York, so good they bombed it twice! After the nukes came the war. *After the War* came violence, and lots of it! Downtown Manhattan has become Scumbag Central. Punks and mutants rule the roost, while underground a mad scientist is building a robotic empire.

The only sanctuary is outside the city in the colonies, but the route there is through the mad scientist's lair. Firstly you have to fight your way to the entrance of the subway system that will lead you into Professor Mcjerkin's labs. Then, using your impressive firepower, you've the task of blasting through to safety.

War is effectively two games with two completely different loads, giving you the joystick-wrenching fun of a fist fight in stage one and the joyous sound of unlimited machine gun fire in the second. This is all bound up in that usual blend of Spanish gameplay – i.e. it's tough! The mix is topped off with some truly amazing/enormous sprites and great effects, resulting in a vicious gauntlet that only the toughest will dare to try and run.

AA RAVE! ☆ AA RAVE! ☆ AA RAVE! ☆ AA RAVE!

SECOND OPINION

"Interminable, plodding orgy of death. I quite liked it. *RL*

GREEN SCREEN

Gets even tougher in parts.

You appear on a 'Nuke York' dockside. In the distance, the ruined metropolis is still glowing unworldly colours, when bearing down on you come the Radio Gladiators. Stripped to waist, these boys mean business, but they've been playing topside far too long in this radioactive wasteland and are easy prey. One punch and they fall, allowing you to progress across the city. Unfortunately there are other hazards, the major one being the radiation. You see the longer you're subjected too it the weaker you get. As those opponents get tougher, you become more fragile...



● Try to avoid close combat – kick from a dis-

That's bad news when there are people out there who actually thrive on blood that glows in the dark. They've been out and about so long that they've mutated into huge neanderthal thugs with a bloodlust and only one weak spot. Other nasties hide in buildings tossing dynamite out into the middle of the melée, while Manhattan Punks cruise around blasting with hand guns.

The only reasonable response is ultra-violence, and you can really do serious damage with hand and foot. The fighting sprite has twenty different moves and you'll have to call on every one at some stage. Most of the everyday nasties can be sent packing with a side kick or straight punch, but Rad–Bulls (the big mutants) need some research to find that vulnerable spot that defeats them. Tie this in with a tight time limit and the gradual weakening of your man and you know life ain't going to be easy.

The second section (accessed through a password) doesn't even let you catch your breath. Having made it down into the sewers and subways, now you must face the robotic monsters called Kangaroo Fighters – well they did say the scientist was mad! – 'smart' atomic mines, and androids. You've now got a belt-fed machine gun at your side and unlimited ammunition, so its time for some righteous blasting at the robots' expense.

Along the way you meet ever more dangerous and deadly robots, even Mega Kangaroo Destroyers! Techniques for dealing with these are soon learned, and the whole shooting match takes on a new dimension. There are some nasty moments when atomic mines start floating down from the ceiling, but this section is much more survivable than the first. It sounds better, too, as grunts and groans are replaced by really good sounding (and looking) explosions.

War doesn't score on subtle gameplay, but peddles pure, unbridled aggression in its place. Surprisingly, it works, action all the way keeping you riveted to your joystick. Only frustration at apparently insurmountable obstacles/foes prevents total addiction.

Wickedly good graphics, large sprites and fast action give *War* its edge: the hand-to-hand is intense, the firepower explosive. It seems that *After the War* there's more aggro than ever! **TW**



● Ripping into a Mega Kangaroo Destroyer.



● Golden androids are hard to kill – keep shooting.



● The ruins of New York are your battleground.



● A Manhattan Punk takes a pot shot while you get to grips with a Radio Gladiator.

FIRST DAY TARGET SCORE

Finish phase two of Level One

The Verdict

GRAPHICS **92%**
- Huge, fast sprites.
- Brilliant use of colour.

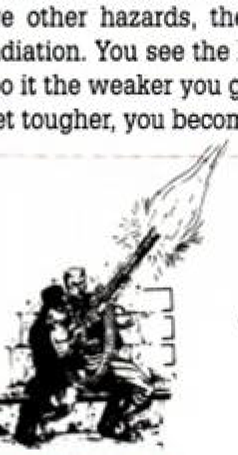
SONICS **45%**
- Average fist-fight effects.
- Excellent explosions.

GRAB FACTOR **62%**
- Hard going to start.
- Get the password and you've two places to start.

STAYING POWER ... **88%**
- Very hard levels keep you at it.
- Maybe *too* hard in places.

AA RATING **81%**

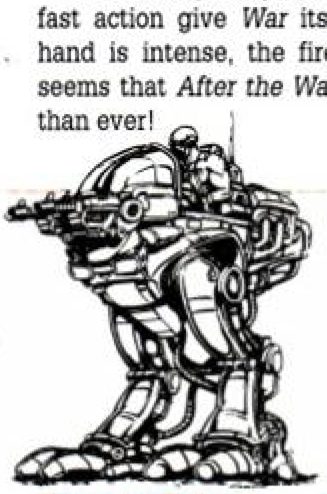
- Explosive, violent fun.



Jungle Rogers



Manhattan Punkies



Kangaroo Fighter



Radio Gladiators

TINTIN ON THE MOON

Infogrames ● £9.95 cass, £14.95 disk joystick/keys



As the final few candidates fight it out to become the first Brit in space, it's galling to think that the French got there way back in 1954! It all began on the deserted steppes of Sprodj in Syldavia, at a research base so secret that only now has the story of that historic flight been revealed.

Tintin, the famous gallic detective, was chosen to lead the mission, and his two friends Professor Calculus and Captain Haddock went along for the ride.

Now you've a chance join in and influence the action. First, your flight path takes you through a meteorite shower. You've got to miss the rocks but gather fuel from the debris in their wake, weaving around the screen to avoid collisions which rob you of valuable energy. Yellow particles give you fuel, and once you've collected eight red spheres it's time to move on to the next level.

Once you've got the spheres the ship glows and the scene switches to the rocket's interior, where a new danger has arisen. The mad Colonel Boris has stowed away and wants to stop the mission at all costs. While you – Tintin – have been busy flying through the void, Boris has been busy placing bombs, starting fires and kidnapping your motley crew. This smacks of insanity or at least a pretty healthy death wish, because there's no way home for the mad Colonel except on that same ship he's just sabotaged!

Once you're on board the graphics vouch for the authenticity of the licence. *Tintin* looks like *Tintin* and moves like *Tintin*. Even the stars that whirl round his head after a knock-down look real!

Your task is simple – to rescue your friends, defuse the bombs, extinguish the fires and capture the evil felon Boris. The detective has to chase around the rocket in either normal or zero 'g', using weightlessness to get those bombs in out-of-the-way places – like the ceiling!

Everything is activated by touch or the fire button. Run into Haddock to free him, float past a bomb to defuse it and jump on Boris from behind for a capture. That's all you need to do – run and climb around the small star-ship, putting out the fires and freeing people. All of this, though, is a logistical nightmare just waiting to happen.

Both the bombs and the fire extinguishers are randomly placed, so the first few seconds on any section involve running around and finding them. However, if you appear in the same room as Boris – the characters being randomly placed as well – and you aren't near an exit, all your hard work can go down the tubes as he relentlessly blasts you into a pulp.

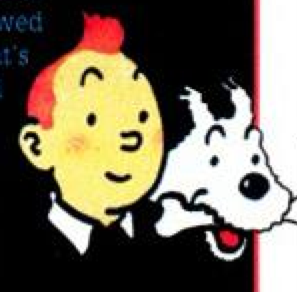
Your ship's fuel supply continues to decrease whenever Boris is awake and running around. So this acts as a time limit within which you must find the bombs, stop the fires and keep tabs on Colonel B.

Each time you save the ship you get to fly further towards your lunar goal. However, there is a little problem. That swine Boris keeps getting out and planting even more bombs and starting even more fires! This happens a patience-sapping five times before you get to the moon. Once there, after a few waggles and button presses the ship settles on the lunar surface and the game's over.

There it is, three years of programming work. A nice little game, with strong emphasis on the *little*! There are plenty of stages to work through, but no variety. Everything's the same, just progressively a little harder and little larger. What starts as a fun first level is dragged out to become the whole game, with a pretty bit stuck on at each end.

Tintin on the Moon falls into the same trap as its television counterpart – repetitiveness. Remember how the episodes arrived every day during the school holidays? Two minutes were taken up with what happened yesterday, two with titles and you had one minute of story. So by September you felt you'd seen the whole thing twelve times!

Infogrames has followed the licence so well that it's not broken this mould and a has served up a game with brilliant animation but no plot. Thunderin' typhoons, what a waste! **TW**







SECOND OPINION

That canny lad Tintin must have flipped his lid to get mixed up with this. Professor Calculus should be able to differentiate better and as for Captain Haddock – well, he's just had his chips!

And if you thought that was bad, wait 'till you play the game... **RL**

GREEN SCREEN

You can't even say the graphics are good when they're all green.



● The nicely-animated opening sequence.



● Dodging the rocks on the way to the moon.



● The end of your journey – and the game.



● Bouncing after the belligerent Boris.

FIRST DAY TARGET SCORE

Finish the game!

The Verdict

GRAPHICS **89%**
- ☐ Captures the *Tintin* theme perfectly.
- ☐ Cartoon-quality graphics.

SONICS **41%**
- ☐ Authentic title tune.
- ■ Below-par effects.

GRAB FACTOR **82%**
- ☐ Just like TV...
- ■ ...if that's any recommendation!

STAYING POWER ... **31%**
- ☐ Five main levels...
- ■ ...that are virtually identical.

AA RATING 44%

- ☐ Visually spectacular.
- ■ Too repetitive to bother with.

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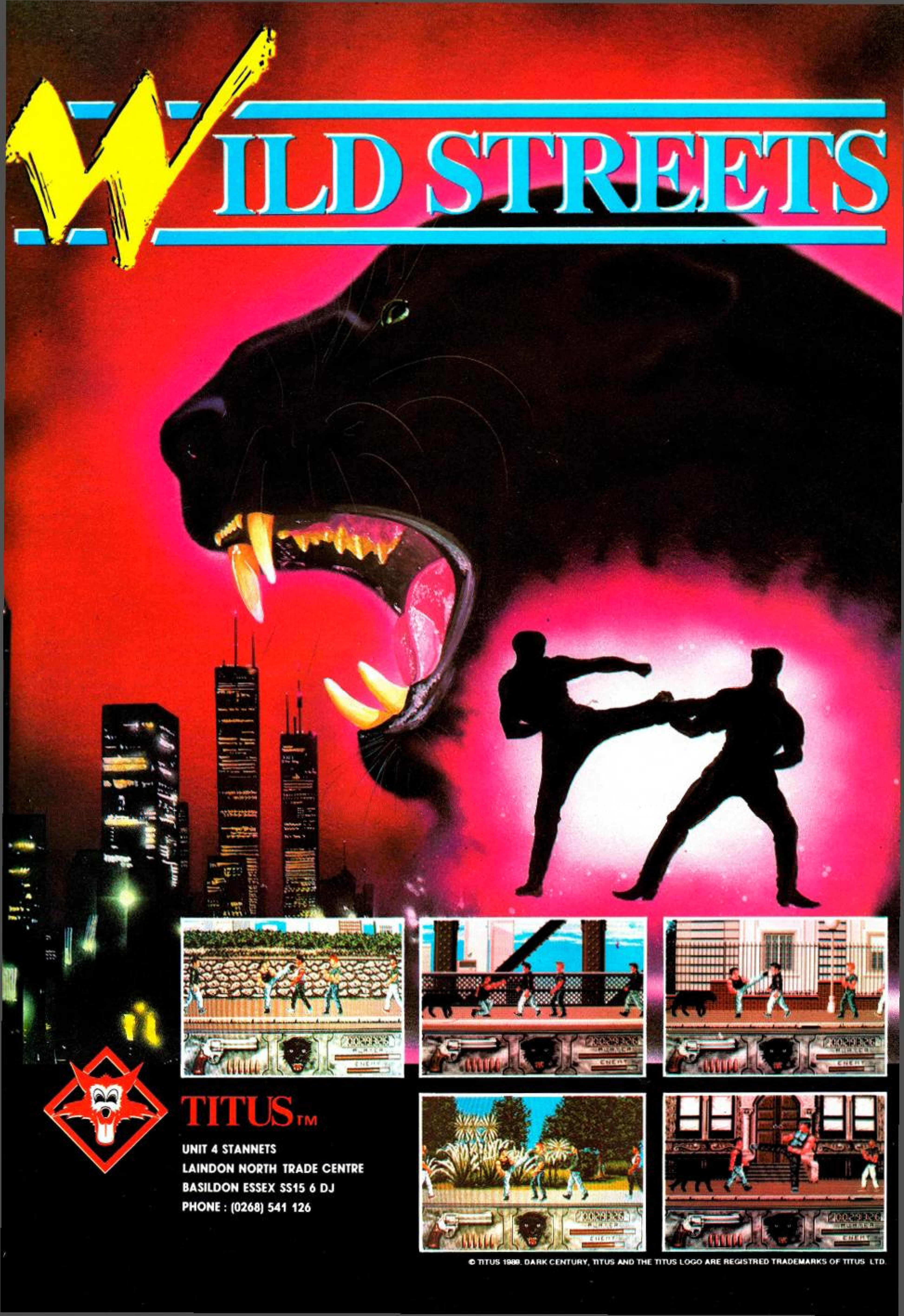


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Screen shots from various systems.

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LOST CAVES

Players ● £2.99 cass joystick/keys

Would you like to be an explorer? Risk life and limb for fame and fortune? So play *Lost Caves*, a game that combines elements of *Skweek* and *Rick Dangerous* – and gives you the chance of becoming rather wealthy into the bargain...

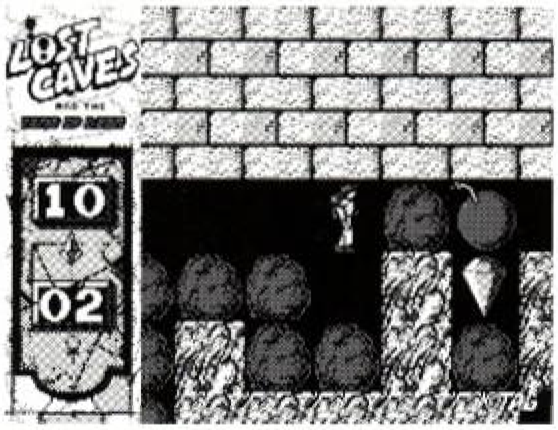
Your explorer gets around by digging his way through mud, and jolly fast at it he is too! But care must be taken, as suspended in the mud are huge boulders that have a tendency to crush hasty explorers flat. Many of the rocks are positioned around the diamonds you've come to collect, so excavate around them and get them to fall out of your way. Of course, if a diamond falls on you that too is fatal.

There are no points in this maze adventure, just fantastic wealth – and every diamond has to be found before you can progress to the next level. For that reason you must avoid trapping the jewels behind the boulders! Of course, these inanimate objects are the least of your worries, as also hiding in the caves are a bunch of kamikaze joggers – little guys in white headbands who run around aimlessly until they spot you. All you can do is pushing rocks onto them – ideally from a great height.

Thrown in to make life even more interesting – if shorter – are lava flows, bombs, one-way doors, fake walls and all the other everyday tricks, traps and trials one associates with ancient temples. The fun emanates from the mad charge through a sea of mud never knowing what you'll find until you've found it!

Lost Caves is no beauty to look at. Its use of colour is limited in the extreme. Sprites are unsophisticated but humourous.

As a maze game, it's spiced up with a liberal dash of tongue-in-cheek fun – cartoon explosions from huge joke bombs and a truly weird theme tune – and given pace by the falling boulders and joggers. 16 levels of controlled panic are the result, and that's a sound foundation for any game to build on. **TW**



● Risk a ten-ton bomb for a ten-ton sparkler?

SECOND OPINION

"Lost Caves is quite simply the best game I've ever prog... er, played. Do me, er, yourself a favour, go out and buy it today. Go on, boost my bank bal, er no, boost your collection with this classic gem, which at the ridiculously cheap price of only £2.99 you can't afford to be without. AW

GREEN SCREEN
Perfect.

FIRST DAY TARGET SCORE

Reach Level Four

The Verdict

GRAPHICS **56%**
■ Limited but jolly.

SONICS **64%**
□ Strange music.

GRAB FACTOR **76%**
□ Attractive to gamesplayers of all ages.

STAYING POWER ... **79%**
□ Some very tricky puzzles to solve.
■ Possibly too tricky.

AA RATING 71%

□ A possible *Dizzy* basher.

AUSTRALIAN RULES FOOTBALL

Again Again ● £9.99 cass, £14.99 disk joystick/keys

Australia, a land where men are men and sport is war. Where they only play the roughest, toughest games and even Rugby's considered a game for Sheilas. Indeed, they've invented a more violent version called *Australian Rules Football*.

Played with a rugby ball on a cricket pitch, it involves a lot of running about and hitting people on the pretence of scoring points. The aim's to kick or punch the ball (or an opponent) between the goalposts.

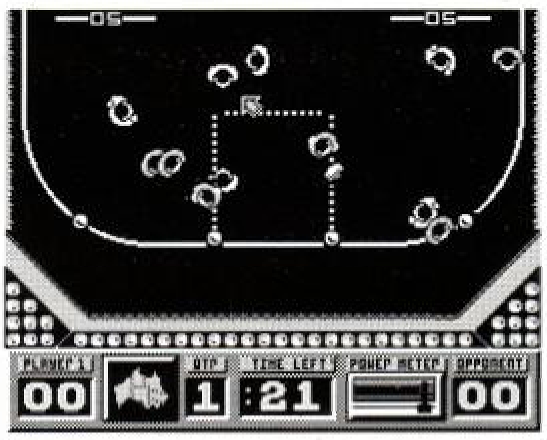
Aussie Rules the computer game follows these principles to produce the world's first ever 'sim' of the sport. Seen from above, at first it looks like 'ordinary' football. As usual the player with the ball is highlighted and equipped with a kick'o'meter.

The most annoying thing about the whole exercise is the colour of the ball, which happens to be the same as your players. So telling who's actually got it can be difficult. Especially annoying as the pitch is moved in flick-screen sections, with an arrow indicating the direction of the ball.

Commentary is provided by a Ritchie Benaud lookalike, the whole game being presented as a TV report. There are two leagues to play in – 'Outback' for beginners and 'Victoria Football League' for those professionals amongst us.

Despite the camouflaged ball *Aussie Rules* is great fun to play once you get to grips with the way the game works. The small pitch injects frantic overtones, while the novelty element is refreshing and lasting.

Not a mould-breaking sports sim by any stretch of the imagination, *Aussie Rules* nevertheless makes a great change from traditionally deadly serious and overly complex soccer games. **TW**



● You're controlling the white thugs milling around the screen – as opposed to the grey thugs milling etc...

SECOND OPINION

Good looking, with nice touches like the frantic pop-up TV commentator and whistle. Tiny pitch though, and occasionally indecisive control. RL

GREEN SCREEN
Ripper!

FIRST DAY TARGET SCORE

Win a match

The Verdict

GRAPHICS **64%**
□ Everything's clear...
■ ...except the ball!

SONICS **40%**
■ Just a few whistles and roars.

GRAB FACTOR **72%**
□ A strong novelty licence.

STAYINGPOWER **65%**
□ Two leagues.

AA RATING 69%

□ Interesting and enjoyable sports sim.

WIZARD WILLY

Codemasters ● £2.99 cass only joystick/keys

Willy is a Wizard with a mission. He has been given the unenviable task of rescuing Fifi the fairy, who's been taken hostage by the evil Emperor.

It goes without saying that the Emperor hasn't made it easy for Willy. Indeed, he's sent forth his evil minions to do their dirty work and halt Willy in his magical little footsteps. Willy starts off armed only with the first level magic spell 'Unimpressive Thunderbolt', but can occasionally collect the odd magic rune or two, enabling him to weave a more powerful spell. The other collectables are ten magic eyes strewn about each level. For reasons best known to himself, Willy must collect all ten of these arcane artifacts before facing the final test of his will – the end-of-level gaurdian.

Wizard Willy is a side-on view platform game which uses an impressive parallax scrolling technique. The backgrounds are very pretty, but have no interaction with the game itself. The obstacles and platforms are on a different plane in the foreground. The sprites reside between the two – in front of the background and behind the foreground (*come again? – ed*). Willy waddles along, leaping from platform to platform, and these can



● Watch out Willy!

be climbed up from behind, which unfortunately obscures your little hero from view. As well as dodging the nasties, Willy must also avoid the explosive traps scattered around the place.

> **SECOND OPINION**
> *A Graphic great from Codemasters. Great start for a new label.* TW
>
> **GREEN SCREEN**
> *Magic!*

The game is virtually silent. A distinctly *New Order*-ish soundtrack plays on the title page, but during the game itself there's nothing but a couple of spot effects. The ommision of in-game sound is annoying, as there's nothing to tell you when your energy is being drained (which is often).

Graphics are where the game really scores. The sprites are exceedingly well-drawn, and the backrounds are atmospheric and fit in very well with the game. The parallax scrolling looks really stunning, providing a uniqueness that gives it the edge over other platform games. AW

FIRST DAY TARGET SCORE

Reach the second guardian

The Verdict

GRAPHICS 93%
☐ Very pretty indeed.

SONICS 51%
☐ New Order-style soundtrack.
■ FX are nothing to sing about.

GRAB FACTOR 75%
☐ The parallax pulls you in.

STAYING POWER 62%
☐ Difficult but not impossible.
■ Not a lot of variety.

AA RATING 77%

☐ Promising launch title.
■ All things considered, it's just another platform game.

THE OFFICIAL FATHER CHRISTMAS

Alternative ● £2.99 cass only joystick/keys

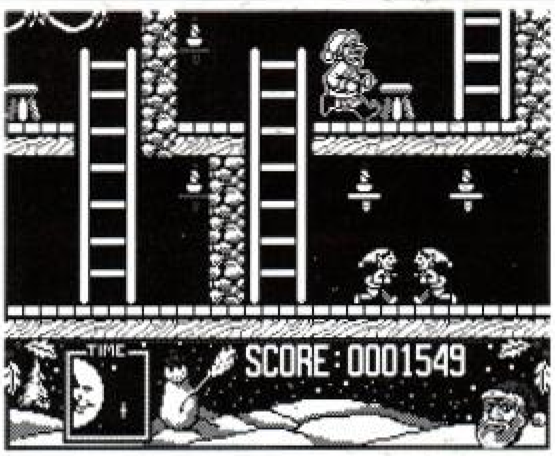
You'd better watch out, you'd better beware, 'cos Santa Claus is comin' to town! *The Official Father Christmas* is Alternative's do-goody Xmas release, all profits relating to the sale of the game being handed over to the Save The Children Charity.

The game sees the fat bearded one attempt to deliver Christmas presents to the children of the World.

First of all he has to assemble his sledge from the the MFI self-assembly sleigh kit, though. Those mischievous little elves have hidden the parts all around his grotto and Santa has to run around trying to retrieve them before setting out on his rounds.

Father X then has to collect all those pressies, ready to deliver them to all the ungrateful little brats that inhabit the globe. Once airbourne, there's a busy night ahead, as our plump pal must drop all those parcels down chimneys in four continents before retiring for another year.

There's not an awful lot to be said about the game itself. It's very simplistic, the first section only having six locations, and it's only a matter of time before you get all the bits you need.



● Festive frolics with Father X.

This goes for the whole game, in fact – you're bound to complete all the tasks because it's so easy – and the time limit is nothing if not generous. The game is really designed for the younger kiddie – anyone over the age of eight won't find it much of a challenge.

The Official Father Christmas isn't going to win any awards for programming innovation. Buy it instead as a Chrimbo pressie for your little brother or sister. It'll keep them quiet whilst you get on with the serious business of celebrating the festivities.

You'll also be giving a little something to less fortunate children as well. AW

> **SECOND OPINION**
> *A novelty game, for a worthy cause.* TW
>
> **GREEN SCREEN**
> *Santa can be seen in green.*

FIRST DAY TARGET SCORE

Complete the game – first attempt!

The Verdict

GRAPHICS 50%
☐ Sprites are OK in the first level...
■ ...but deteriate rapidly from then on.

SONICS 50%
☐ A resonable rendition of Xmas jingles.
■ Not a blip in the game.

GRAB FACTOR 65%
☐ Interesting theme...
■ ...For the first go.

STAYING POWER ...63%
☐ Three different sections.
■ Very easy to finish, even for a youngster.

AA RATING 60%

☐ All in a good cause.
■ You'll need to be young to enjoy this one.

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joystick/keys

Arcade City! Three of the greatest arcades ever built – *Afterburner, Wec Le Mans* and *Double Dragon* – have joined forces with the System 3 original *Last Ninja II* and explode onto your screen. Together they bring shoot-em-ups, beat-em-ups, arcade adventure and high speed racing – all a person could ask for in fact to cure those post 'pud blues.

The star of the show is *Afterburner*, not a graphic delight but a real stick-waggling, trigger-wrenching game of shoot the Ruskies. You fly a state-of-the art US fighter plane on a mission over various terrains, blowing things away with guns and missiles. *WEC* is no slouch either, this time putting you behind the controls of a sports car in the famous French endurance race, it's very fast and exceptionally pretty.



● WEC Le Mans back for another lap in *100% Dynamite.*

AA never reviewed *Last Ninja II* but it received massive public acclaim and sold in its thousands. A black and white arcade adventure, you control this last nutter as he strolls around beating folks up and collecting apparently useful objects. *Double Dragon* at last makes it onto the CPC and you'll soon see why we had to wait. The graphics are excellent but the game moves with all the pace of an arthritic slug. A decent filler but little else, and not a patch on its arcade parent.

A great compilation that brings you a new game and three established hits, there's enough variety here to keep any gamesplayer quite for weeks.

Unfortunately, Ocean spoils its compilation record once again by only releasing the package on tape, which will no doubt deter many disk-based customers. **TW**

The Verdict

Afterburner	*AA*41 81%
Last Ninja II – Not Reviewed	
Double Dragon – Not Reviewed	
WEC Le Mans	*AA*42 82%

AA RATING 80%

☐ Two absolute, solid gold faves.

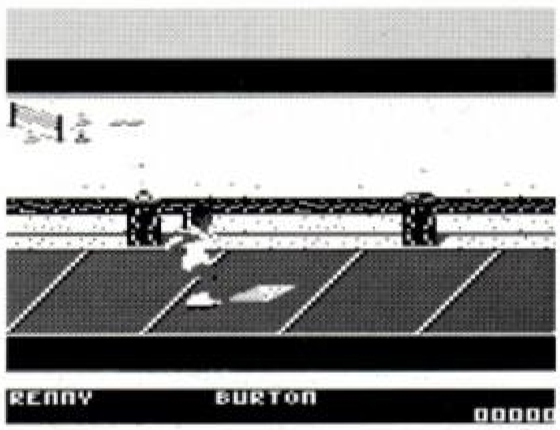
EPYX ACTION

Epyx ● £14.99 cass, £19.99 disk
joystick/keys



Epyx is the sports sims specialist which has brought us *The Games* in all their various guises – *Summer, Winter, Early Afternoon in March* etc. Here it unites two such multi-event games, *California* and *Winter*, to let you try your hand at everything from roller skating to slalom skiing.

Bundled in for good measure are *4x4 Off Road Racing* which purports to take you driving across some of the most hostile terrain on earth, and *Street Sports Basketball. Racing's* competent but not exciting, while *Basketball* is graphically limited but surprisingly good fun to play. Out of place with all these athletic and sporty games sits *Impossible Mission II*. A corking game, it helps the compilation along with a bit of variety but somewhat destroys the sports theme.



● Skating on thin ice (OK, tarmac) in *Epyx Action.*

The amount of different games within games here is staggering, but can your joystick handle all that waggling necessary in so many 'games' events? A good package, it still lacks that single star title to give the whole group purpose. **TW**

The Verdict

Impossible Mission	*AA*33 85%
4x4 off Road Racing	*AA*42 45%
Street Sports Basketball	*AA*36 44%
California Games	*AA*30 59%
The Games – Winter Edition	*AA*39 59%

AA RATING 63%

☐ Masses of events but little variety.

WINNERS

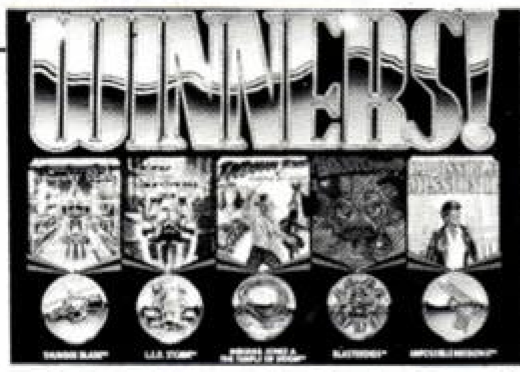
US Gold ● £14.99 cass, £19.99 disk
joystick/keys

US Gold's Christmas goodie box is stuffed to the brim with conversions.

Thunderblade's the big name leader of the pack – it was last year's chart challenger from the Brummie boys and girls, and straps you into the cockpit of a helicopter gunship that flies through cities and over battle stations raining high-explosive death.



● The Man with the Hat is back again on *Winners.*



Indiana Jones and the Temple of Doom's a strange film/coin-op crossover. You take on the role of the man in the hat and fight your way across various landscapes rescuing children, finding artifacts and trying to stay alive.

Blasteroids is a very creditable attempt to revive the long-forgotten *Asteroids* genre. A one or two-player game, you must clear sector after sector of debris and aliens with your ever trusty laser cannon. It's limited but fun.

Impossible Mission is in a league of its own as a game of running and jumping detective fun. Trying to defeat the improbably-named Elvin Atombender, you have to neutralise five tower strongholds relying on luck and judgement not firepower. A classically frustrating game.

LED Storm is better left unmentioned, other than the fact that it's a car game of dubious repute. It's the only real dog of the bunch, though, and cannot drag down a solid and varied compilation of arcade (style) games that rely on quick reactions and little brainwork. Great blasting fun. **TW**

The Verdict

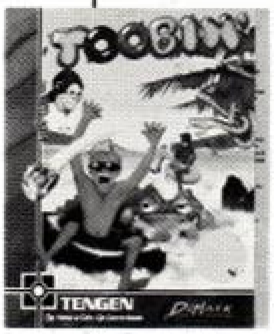
Thunderblade	*AA*40 74%
LED Storm – Not reviewed	
Last Crusade	*AA*27 72%
Blasteroids	*AA*44 68%
Impossible Mission II	*AA*33 85%

AA RATING 76%

☐ Arcade action and lots of it!

TOOBIN'

Tengen ● £9.99 cass, £14.99 disk joystick/keys



Forget football, cancel the cricket and stuff surfing. If it's sporting excitement that you're after and floating though the rapids in an old lorry inner tube appeals to your sense of adventure, then roll-up and take your place in *Toobin'*, the wackiest event ever.

This outrageous sport stars Biff and Jet, two crazy tube dudes looking to have the time of their lives as they shoot down the rivers of the world sitting in inflated inner tubes. They're carried by the current, with little control over their destiny except frantic back-paddling to keep them from danger. And danger abounds. There are dead branches sticking out through the water, floating logs, fishermen, kamikaze penguins, eskimos and glaciers, to name but a few. Our two heros have an arsenal of tin cans for defence. The litter louts throw the cans, dazing the baddies on the bank, sinking the sticks, and generally blasting anything likely to puncture their inner tubes.

Toobin' loads to a great jazzy soundtrack, which, for a change, you don't want to turn off after two minutes. One or two players can play at the same time, taking control of either Biff or Jet as they bob merrily along in their tubes. The daring duo can paddle in combinations of forward-left, forward-right, backwards-left and backwards-right, providing exciting possibilites for daring water stunts. Graceful arcs can be performed with skillful paddling, as well as rather spectacular crashes into objects on the other side of the screen. This is one of those games where it is far easier to control from keyboard than joystick – and in two-player mode, both players can be accomodated on the keyboard.



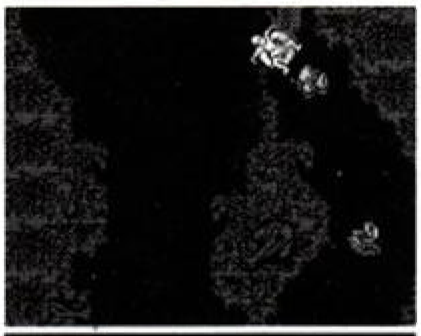
● Wait for the worm, then ning round the corner and get the plaster.

● Look out for the lions.

The river is seemingly endless and the landscapes are many and varied. It passes through swamps, jungles, icy wastes and sewers (yuk!). If you dawdle for too long then a nasty crocodile pursues you to keep your speed up.



● Mucking about on the water.



● Got by the 'gator, what a horrible way to go.

The tin cans bob up and down in the water and can be picked up easily by floating into them. The occasional six-pack is also available, but tends to be more difficult to reach. Sticky plasters can be collected, giving you an extra life, and bonus points are obtained by zooming though the marked banners.

Branches are the most common hazard, and can be dislodged with a well-aimed can. They often hide a special bonus, including special letters that bump up your score.

The game features a credit system, so that you can restart from your last position when all your lives are used up. This makes the game a tad too easy to complete, though, and after a few hours of intensive play you'll find yourself crossing the finish line.

All the sprites are monochrome, being ported directly from the Spectrum. Everything on the riverbank is the same colour, and the missile-firing bozos on the riverbank are particulary difficult to spot until it's too late.

It's the erratic style of control that really makes this game. Two people playing simultaneously increases the action no end, and competing for the tin cans and bonuses makes for edge-of-the, er, tube stuff.

SECOND OPINION

An original arcade theme is a rare bird. Tengen has come up with another corker, it's fun, it's fast and playable. Shame about the colour, but worth every penny all the same.
TW

GREEN SCREEN
Some screens are a shade too dark.

Although it's possible to reach the finish line without too much difficulty, it still remains a very enjoyable game. *Toobin'* retains one vital ingredient that seems to be missing from so many other games – sheer playability. **AW**

FIRST DAY TARGET SCORE

Complete the course

The Verdict

GRAPHICS **47%**
■ Speccy port

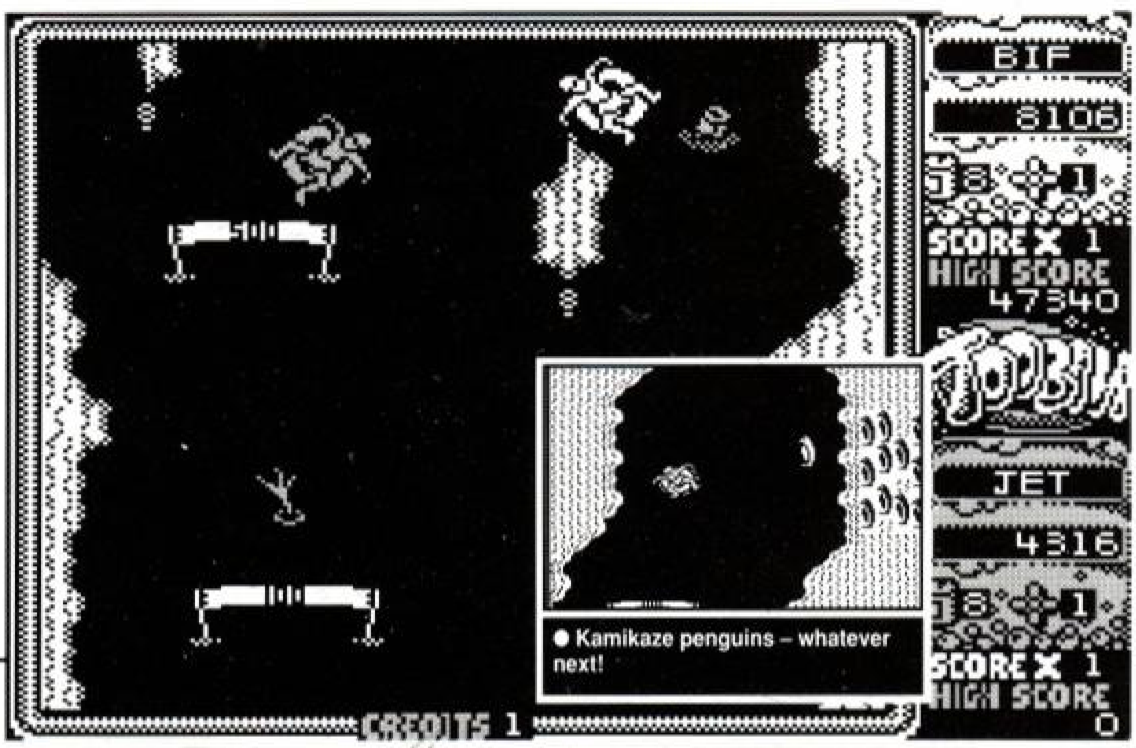
SONICS **92%**
□ Great jazz tracks.

GRAB FACTOR **80%**
□ Brilliant fun.
■ Hard to control at first.

STAYING POWER ... **71%**
□ Even when you've finished it's still fun.

AA RATING 76%

□ You won't *tyre* of this one!



● Kamikaze penguins – whatever next!

● Two-player mode – enhanced floating frolics.

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a) 5
b) 10
c) 30

2. Which of the following is a top CD player manufacturer?
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b) Ron Dodgy Imports sort of plc, like
c) Sony

3. What uses laser beams, spinning silver discs and is almost intelligent?
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b) Trenton Webb
c) A compact disc player

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3 ....

4 ....

5 ....

6 ....

7 ....

8 ....

9 ....

10 ....

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Remember, all entries have to be in by the 31st January 1990 (unless you live overseas – see box) – so good luck!

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RULES AND CONDITIONS

1. Employees, or their relatives, of Future Publishing or Codemasters are not eligible for entry.
2. The decision of the judges is final and no correspondence can be entered into.
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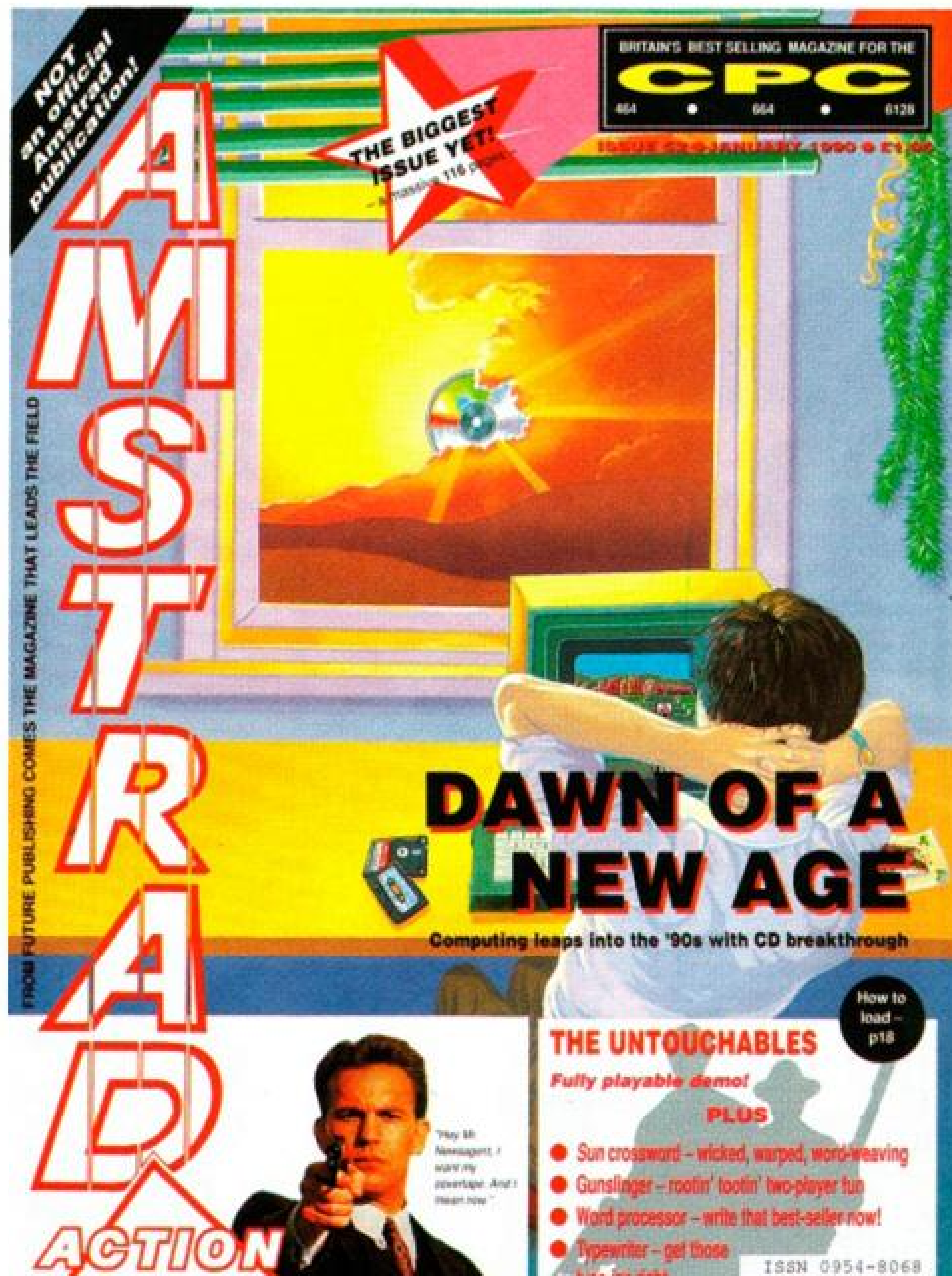
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Scapeghost

£14.95 cassette, £19.95 disk (disk version has graphics and needs 128K) ● Level 9 Computing ● PO Box 39, Weston-super-Mare BS24 9UR

At last! *Scapeghost* has, after much delay, finally materialized out of the netherworld to the Amstrad, a sad tribute to Level 9, as it will be the team's last game for the CPC. Will it be their best yet or worst I wondered as I tore open the packaging...

On opening the case I wasn't even sure I had received a Level 9 game at all – no massive novella, excessive instructions or long storylines, just the disk and a poster with the instructions on the reverse side. A strange step for L9, which usually goes overboard. In fact, I prefer this approach, although a novella may set the scene for a game it is so annoying having to read, say, the *Gnome Ranger* booklet, before you can really start playing! (Although I must admit the Balg did enjoy reading it.) Suffice to say, the instructions provided are adequate, although first-time adventurers could be well advised to play *Gnome Ranger*, *Ingrid* or *Lancelot* first, as they have copious instructions.

The plot is original and clever. You play the part of a detective, Alan Chance on an undercover mission to infiltrate a drugs gang. All was going fine until someone or something alerted the gangsters and they killed you and escaped, taking your colleague Sarah as a hostage. Your fellow police falsely blame you for mistakenly tipping off the criminals – as you soon find out at your own funeral.

You have three nights as a ghost to disprove this false accusation, clear your name and gain revenge. You must use your detective powers and growing spirit powers to delay the gangsters, track down their new hideout and bring them to justice.

The game is in three parts, each taking place on a different night. Part One starts at your own funeral and has you coming to terms with your ghostly powers and improving them while making friends with the residents of the graveyard. It takes quite a while to become accustomed to being a ghost – at the start you can't pick up any objects! The graveyard is populated with many ghosts, including one called Joe (the dead barman from the Pig and Whistle) who soon befriends you and gives you a guided tour of the place. You must recruit all the ghosts you meet, and with their help delay the gang.

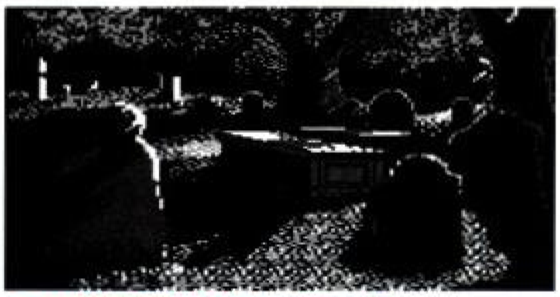
This section reminded me very much of *Ingrids Back* in that you must perform services for other ghosts before they will do what you want.

The interaction between the ghosts and yourself is very good and they seem almost human... (?)

Part Two starts you by your grave again. After delaying the gang in Part One you must go to the gang's old hideout and search the place for clues to where they have moved on to. You must then alert the police as to where the new hideout is. There are some very good puzzles in this section, including getting a piece of paper out from inside a chimney...

The final part has you finding the gang. You must free Sarah and then delay the gang enough so that the police can arrive in time.

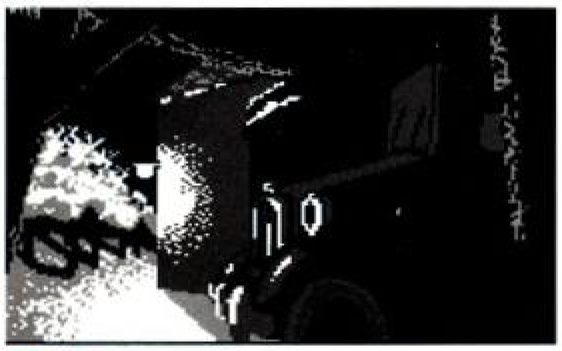
The game is well written, and although its subject sounds gloomy and depressing, much of the scarier aspects are dispelled by some awful jokes. The puzzle associated with Edith is really corny but so obvious! It involves ripping up a copy of *Time* magazine to prove that she has 'seen the end of time'. The atmosphere is still excellently maintained though, through references to puzzles and your previous life.



● Morbid goings-on in the graveyard.



● This place looks derelict – but is it?



● You discover a lorry...

The game uses the same system as *Ingrid's Back*, i.e. a powerful parser supporting OOPS, GO TO etc and graphics on disk versions. The graphics are definitely Level 9's best yet and deserve an award! The devious and original plot was written by Sandra Sharkey (author of *Case of the Mixed Up Shymer*) and adventure columnist Pete Gerrard.

In conclusion, *Scapeghost* is original, has a great parser, atmospheric text, beautiful graphics and some wicked puzzles... Well worth buying, though it is a great shame that this Level 9's last game. An appropriate farewell to one of the best adventure houses ever.

Atmosphere	90%
Interaction	92%
Challenge	80%
AA Rating	90%

LEVEL 9 COMPETITION

Do you want to win a copy of Level 9's *Scapeghost*, or any other of their fantastic games? Yes? Then simply answer the following questions set by Mr Level 9 himself, Pete Austin. Take it away Pete...

1) What is the surname of the star of *Gnome Ranger* and *Ingrid's Back*?
2) What was Level 9's first science fiction game?
3) Name the Level 9 game that has recently opened as a film.

The first three winners can choose to have any Level 9 game of their choice and the ten runners up a Level 9 T-shirt. Send in a postcard with your answers, name and address and T-shirt size – S, M, L or XL – to Level 9 Competition, Amstrad Action, 4 Queen Street, Bath BA1 1EJ by January 5th, 1990.

The Tolkien Trilogy

£12.99 cassette £17.99 disc ■ Beau Jolly Limited ■ 29A Bell Street, Reigate, Surrey RH2 7AD

Adventure compilations are rare things – especially good ones – so it is good to see that Beau Jolly is re-releasing *The Hobbit, Lord of the Rings* and *Shadows of Mordor* in one pack.

Many adventures have a Tolkienesque flavour, so it was inevitable that the most famous fantasy novel of all would turn up on computer. For those of you who have never heard of these games (where have you been all this time?), they take place in the world of Middle Earth, immortalised by JRR Tolkien in his various books. Each of the games is a 'classic' in computer gaming; *The Hobbit* as it was one of the first with graphics and interactive characters who acted intelligently (most of the time); *Lord of the Rings* for the sheer size and complexity attempted for a tape-based game (and of course for its bugs) and *Shadows of Mordor* because, again, of it's size and complexity (and fewer bugs!)

All the games are now quite old (over two years) but the magic is still there, especially for readers of Tolkien. (If you haven't escaped from the Goblin's dungeon you haven't lived!) *The Hobbit* is limited by today's standards but *The Lord of the Rings* and *Shadows of Mordor* have some impressive features even now, such as complex character interaction, large vocabulary, independent characters, and complex parsing together with over 200 locations in each. They also feature the ability to 'become' different characters (such as Frodo and Sam) to complete the game.

Because of these advanced features, *Lord of the Rings* especially is v e r y s l o w ... Picking up an object can take ten seconds and moving locations twenty! Thus great patience is needed to complete the game. Another feature of *LotR* (and also *Hobbit* and *Shadows of Mordor* to a lesser extent) is the bugs in the games. In fact bug-hunting in *LotR* became, for some, a hobby – the game has so many!

In conclusion, there's no doubt that *LotR* is seriously bugged in places, but all three games are challenging and the Balrog enjoyed them very much (especially because he makes a star appearance in the *Lord of the Rings*).

If you haven't got them, and *Scapeghost* doesn't appeal to you, don't think twice – buy 'em!

● **You can read the full reviews of *Lord of the Rings* and *Shadows of Mordor* in *AA*6 and *AA*21 respectively.**

TOLKIEN TRILOGY COMPETITION

Want to win a copy of *The Tolkien Trilogy* for your Christmas stocking (OK, New Year's stocking then)? Those nice people at Beau Jolly have given me five copies to give away. All you have to do is draw a picture of what you think the Balrog looks like under all that darkness. The best five will win a copy of the compilation plus undying fame in having their work published in *AA*. The closing date is January 5th 1990.

Atmosphere	87%
Interaction	84%
Challenge	80%
AA Rating	85%

BALROG'S POST

● First out of the Balrog's postbag this month was a letter from a Red Dragon! (Strange names people call themselves nowadays – why can't they call themselves something sensible like the Balrog?) Red Dragon has written in wanting to join the *Bard's Tale* club and praises the idea – 'if enough attention was drawn to the popularity of the game on the CPC then Electronic Arts might just reconsider and release parts *II* and *III* of the best computer game in the 8-bit universe.' He goes on to say that he is a bit of a machine code programmer and is very interested in writing a *Bard's Tale* type game for the 6128. "Is there anyone who would be interested in writing it with me or has a suggestion to offer? If there is, could they please write to me – this is a serious project as I am a keen programmer and role-player and I believe that a disk-based program with the 128K memory could produce a truly epic fantasy game." Well, anyone interested, please write to Red Dragon c/o the Balrog.

I would look at the various alternatives though – *Swords & Sorcery, Ring of Darkness* and *Mandragore* – perhaps even games on other machines such as *Ultima* and *Dungeon Master*. Don't stick too closely to the *Bard's Tale* theme, otherwise you might have Electronic Arts after you!

● Simon Fincher also wrote to join the *Bard's Tale* club – "my only regret was buying the tape version; the levels take ages to load and having to go through many just to reach Mangar's Tower is a real yawn. Prospective buyers beware! A disk version is worth every penny." He goes on to say that EA should be congratulated for releasing the game on the CPC and then "painfully slain by Nazguls for not releasing the others in the series." I quite agree, Simon. Perhaps EA might release parts *II* and *III* if they thought they would profit by them, so fellow Balgs protest to EA at 11-49 Station Road, Langley, Berkshire SL3 8YN saying the Balrog sent you!

If enough people write, as was shown with the return of the adventure column in *AA*, then maybe the games will be released.

Simon ends on a sour note "Why do adventure column writers choose such silly pseudonyms? Do they fear being attacked in the street by annoyed adventure programmers?" The Balrog! Silly! How dare you Simon! Prepare to be Balroged. As to a Balrog being afraid of being attacked – never! Any programmers come near me and they will be eaten before they can shout "Play Flute".

● The Balrog received a letter from Stuart Whyte, *AA*'s Adventurer of the year, enquiring about his prize and asking about the Pilgrim, Steve Carey and Pat McDonald "It seems mysterious that these people have all left *AA* at more or less the same time – in fact, the time when you arrived – have you eaten them or something?" Reports of the Balrog eating these people are of course wrong, whatever the police say (quick, quick, get Steve's arm out of my freezer...), and anyone else who suggests this will also be eate... oops, dealt with! Just because the Pilg and the editorial staff forgot to feed the Pilg's pet Balrog during his absence, it can't be my fault if I became a bit hungry. Suffice to say Rod is now at this moment throwing adventure games at me to satisfy my appetite!

● Last and by no means least, the Balg received a letter from Mandy Rodrigues, the editor of *Adventure Probe* magazine and a keen CPC adventurer "How nice to see you in *AA*. Having read the veiled references to you in past issues it is good to see you coming to the fore, so to speak. I suggest that you place an immediate ban on anyone entering the vicinity waving crystal wands or blowing flute, horns and the like in the interests of safety to your person. Bob Adams is really a smashing chap and I am sure he didn't mean to call you a Skrimball. Anyway could you please draw the attention of your readers to the best adventure magazine around? It has been referred to as the Granddaddy of all adventure magazines as it has been around for so long (first issue was June 1986) but I prefer to call it the Grandmama as we have never had a male editor. Your readers should feel at home reading *Probe* as Joan Pancott (Hi Joan!) contributes regularly."

A shameless plug by Mandy! But *Probe* really is that good. If you're interested in *Probe* write to Mandy at 67 Lloyd Street, Llandudno, Gwynedd, LL30 2BN (0492 77305). *Probe* is £1.50 per month and is packed full articles, reviews etc. Meanwhile, look out for the forthcoming club round up.

Clue Sniffing with the Balrog

Some hot clues this month from Trevor Fullore, Antcrusher (!), Ludwig the Egg and Jerome Young. Don't forget that if you're well and truly stuck in a game, and the clue you need isn't here or in a previous issue of the magazine, then check out the *Lords & Ladies of Adventure* – there may well be someone there who can help...

Kobyashi Naru

Trevor Fullore has come to the aid of Mr. Unrecognizable Signature's plea for help in *AA*50...

- Porthole 1, Knowledge: Get scimitax, S, examine tree, throw scimitax at stems, get pod, N, activate pod, throw pod in gaping maw.
- Porthole 2, Wisdom: Activate Solance, pull solance. At the tunnel don't go down more – just examine tunnel and climb cliff.
- Porthole 3, Understanding: Activate maga-unit, get lasalite, go to pit, jump pit, E, E, drop magnet, get wheel, get magnet, lasalite, W and throw wheel in pit. Now jump hoverdroid.

IS THIS A BLUNDER I SEE BEFORE ME?

It most certainly is, or *was*, anyway. The extremely worth *Avon*, from Topologika, last month got credited with a measly 57%. This was not only a gross calumny, it was a typographical blunder which has led to the indefinite imprisonment of the sub-editor responsible. *Avon* actually scored a far more respectable 87% and gets a definite thumbs-up!

BARD'S TALE CLUB

Even the Balrog himself was amazed at the response to the *Bard's Tale* club. But please – no cheats! Anyone can complete the game with a poke but it takes a true adventurer to succeed alone.

- Nicholas Butcher has *BT* on disc and has characters with "roughly 15,000,000 experience points each; uncountable amounts of gold; and many varied and wonderful objects. After defeating Mangar I now have him in the 'special slot' of my party." Nick has mapped all the levels and knows nearly all the answers to the riddles. His address is 116 Upper Hale Road, Farnham, Surrey GU9 0J4H
- "I have a 17th Level party and am willing to lend aid to others..."

The Red Dragon, Rockmill House, Painswick Road, Pitchcombe, Glos GL6 6LH.

- "I have 2662774 pieces of gold, level 25 characters with about 2,600,000 experience points each". Simon Fincher also has maps to all the levels except Mangar's tower. He is at 7 Fairfield Road, Evesham, Worcs, WR11 6HB.

Sorceror

Examine the curtain in Belboz's study.

Scapeghost

Pick up the thistledown first, then build up the weights!

Guild of Thieves

- Help old man to get into castle.
- Shout to Miller "Please stop Vanes" to get into Mill.
- Shake palm tree.
- To deal with Macaw, break coconut with spade then feed Macaw.
- The beehive is a red herring.

Worm in Paradise

After getting the managing job, buy a ticket from the travel agent for the riverboat.

HELP!

- Lorry wants some help in *Lurking Horror*. How can he get the hand without the creature eating it and how can he get by the brick wall?
- Steve Ellis is stuck in Redmoon. What are the spells chasm, obis and obullian for?
- John Gibbins has collected all the treasures in *Guild of Thieves* and put them in the bank – how can he finish the game from here?
- Paul Daykin is stuck in *Corruption* – "How do you get in the casino? Can you drive your BMW out of the car park? If so, how?" and finally "How do you avoid going to sleep at 6:30?"

JUST FOR LAUGHS

Aren't games on the Amstrad funny? The reason I'm asking is that the response for this section is decidedly poor – so if you know of any funny responses write in now or feel the wrath of the Balrog's whip and sword! Thanks this month go to Adrian Forbes and Stuart Whyte...

Jinxter

Urinate when on bus!

The Hitchiker's Guide to the Galaxy

- SMILE and PANIC.
- ESCAPE when in poetry chair.
- Try lying down in front of bulldozer and then standing up again.
- Try calling home or the police on the phone.

CONTACTING THE BALROG

The Balrog can be contacted c/o Amstrad Action, Future Publishing Limited, 4 Queen Street, Bath BA1 1EJ.

The Balg does his best to keep up his correspondence, but I'm afraid that I cannot answer individual pleas for help. If you're really stuck in a game then check out the *Lords & Ladies of Adventure*, where there is bound to be a brave Balrog who can render more timely assistance than I. If you are really stuck, then send in your pleas and I will print them in the help section.

As always, I am interested to hear from readers on any subject to do with adventures and will include your letters in the column whenever space permits.

The Lords and Ladies of Adventure

Hail the Lords & Ladies of Adventure! Bow down at their feet, you miserable lot out their, and beg for their assistance in times of toil and woe. And if you're too proud to do that, then get off your backsides and write in to join them! Everlasting fame awaits those Arnold-venturers who offer help to those less fortunate than themselves.

As always, send an SAE when writing – and keep phone calls to sociable hours!

Message from Andromeda • Heroes of Karn • Forest at the Worlds End • DAA 'n' Everything • Trial of Arnold • Jewels of Babylon • Mordons Quest • Hobbit • Lord of the Rings • Planet of Death.
Bob 'I love Probe' Adams, 81 Uplands, Welwyn Garden City, Herts. AL8 7E8.



Cricket Crazy • Life Term • Smashed • Mindshadow • Rigels Revenge.
Paul Daykin, 93 Hummersknott Avenue, Darlington, Co. Durham DL3 8RR.

Colossal Adventure • Heroes of Karn • Message from Andromeda.
Stuart Mason, Flat E3/3.5, Lupton Flats, Alma Road, Leeds 6.

Souls of Darkon • Kobyashi Naru • Venom • Mystery Indus Valley • Gnome Ranger.
Wendy Watters, 82 Booth Road, Stacksteads, Bacup, Lancashire, OL13 OSF (0706 877518).

First Edition

So you've got your words and you've got the pictures – but until you've read this month's instalment, have you got yourself a layout? ADAM PETERS puts on his designer hat and produces a page...

We've tackled the three topics of text, artwork and layout in turn for reasons of simplicity. But although there is a sensible progression in that order, it is often only when you start to consider the layout of the finished page that you will get a clear indication of what is needed in the way of illustrative material (artwork) to accompany the text.

The designing and laying out of pages is one of the most 'fun' areas in the production of a magazine. If you own *Stop Press* or a similar package, life is a lot easier, since you can produce completed pages on screen, incorporating headlines, columns of text, text flowing round graphics and so on.

If you're having to make do with a WP package and a couple of sheets of Letraset, you can still do all the same things, but it will require a lot more time and patience. (Making text flow around graphics is an absolute nightmare and takes hours of careful measurement).

Still, whatever design tools you have at your disposal, what better way to look at page layout than by laying out a page (trick question)?

There are many different ways to go about it. Personally I like horrible, garish headlines in lots different typefaces that leap straight out of the page and grab the reader by the throat. You may prefer a more subtle approach.

Most High Street magazines gain their 'professional' appearance from two factors.

Firstly, they are produced on outrageously expensive systems and typeset on machines that could quite comfortably fill a large semi-detached house in Keswick.

Secondly, they use a standard format for all their pages and a limited number of typefaces.

AA, for instance, uses almost exclusively Helvetica and Glypha (with Courier for listings). People who favour this more spartan approach may find themselves reaching for a sick bag during the course of this instalment (or, if they don't happen to be reading this on a plane, whatever comes to hand).

● Step One: the words

As our starting point let's take a single page of text. It's an article telling everyone why the CPC is the best thing since sliced cheese. At the moment it's a single block spanning the width of the page (72 characters). If you think you should start by adding the headline, I'd strongly advise against it. The headline can be any length or width you like, and it's a lot easier to tailor the size of the headline to fit what space is left once you've laid out the main body of the page.

One decision you do need to make now regards the position of the headline. Will it run widthways across the page (as you'd expect it to) or lengthways down the edge (this can be particularly effective with double pages with two-word headlines, where one word runs down the left side of the left hand page, the other down the right side of the right hand page). There are other alternatives, such as a heading in a triangle in one corner of the page or in a circle in the centre. We'll opt for the sensible across-the-top method for this example. Now we know we can work across the whole width of the page, but we must try to leave some space at the top.

● Step Two: columns

We really need to organise our text into columns. Columns not only make a page look more presentable, they also make reading it a lot easier on the eye. The number of columns adopted is usually three for an A4 page and two for an A5 page.

One problem you can encounter with columns, however, is that you get a lot of 'rivers' running through them (i.e. the spaces between words, where only two or three have made it onto a line, running together down the page). You now enter hyphenation city, where you find yourself madly hyphenating words to get rid of some of the gaps. Once you start adjusting column widths to whizz round graphics and boxes some of the hyphenated words reappear on a single line and... aaarrgh!

We're going for two columns (though we're working on an A4 page, we are assuming it will be reduced to A5 when printed). We're also going to reduce the width of the text, from pica (10 characters per inch) to elite (12 cpi). This is mainly because standard (pica) characters are too fat, though it also has the advantage of offsetting the reduction in the amount of text you can fit on a page (an unavoidable by-product of the use of columns).

● Step Three: boxing lessons

Now that we've got a clear idea of the page, we can decide what we want to add. Firstly, a box of text might be a nice idea. Paragraphs four and five are concerned with the CPC's history. These can be removed and put in a box at the bottom right of the page. This box will be one and a half columns wide (the main text is 86 characters wide under elite; the box will be 64 characters wide), the text will be in a different typeface, there will be a subheading ('A History Lesson') and a photograph of Mr Sugar. It's best to get this box worked out before working on the main text (so you know how high it will be). 'Boxing' is a very useful way to break text up – and no, I don't mean putting big red gloves on and belting the pages.

● Step Four: artwork

A single photo isn't really enough illustrative material, so we'll also want an illustration



● 1: Starting at the very beginning – words on a page.



● 2: Arranging the text into columns – improves readability.

within the main text. We can either do the drawing first and then tailor the text to make room for it, or vice versa. We'll opt for the former, since we're going to want text to flow around the drawing and we like making things difficult for ourselves...

Using a copy of the sheet from step two, we position the box and drawing where we want them to go and then draw round them. Since the box is right-heavy (i.e. on the right of the page), the drawing will want to lean more to the left.

Once we have our outlines, we can work out how many characters will fit onto each line (leaving one or two characters space between the art and text). It's then a matter of removing the text used in the box from the main piece (if you haven't already done so) and adding paragraph breaks where necessary. There's a lot of choice as to how you break up paragraphs. Leaving a line is the neatest; alternatives are indentation or nothing at all (which is a bit dodgy when the previous paragraph ends right at the end of the line).

Now, we have the arduous job of adjusting ruler lines to 'open up' space for the drawing and box. It's trial-and-error as to whether everything will fit on the page, which is one of the reasons it's best to leave the drawing till last, creating what space you can on the page by adjusting the ruler lines. *Stop Press* users can cheat here, since the 'variable stretch' command, together with the wide choice of type sizes, means they can get everything to fit fairly easily.

● Step Five: headlines

Once you have the text part of your master page ready, simply cut and paste on the box, add the illustration and then run off a headline. *Stop Press* and packages like it are ideal for this, but even if you're using Letraset you can be a bit adventurous. Why not draw a large box at the top of the page, then add some diagonal lines inside it and rub your letters down onto that?

In our case, we won't be boxing the headline since it would 'clash' with the bold box we already have. This bold box (we may have gone a bit over the top in the thickness of the lines) also means we need a very bold headline, otherwise the eye will be drawn down rather than up. Once we've run that off, it's simply a case of glueing it down and, voila! – the completed page.

The one thing that's missing is the page number. I'd recommend this is left off until just before you go to print, since the order of the magazine can very easily change at the last minute. I'd also recommend Letraset page numbers, since the cutting and pasting of lots of tiny bits of paper is a very messy, time-consuming and accident-prone job.

This is just one way of laying out a page. Ours is very much a text-based page – with fewer words to fit in there'd have been more room for artistic experimentation.

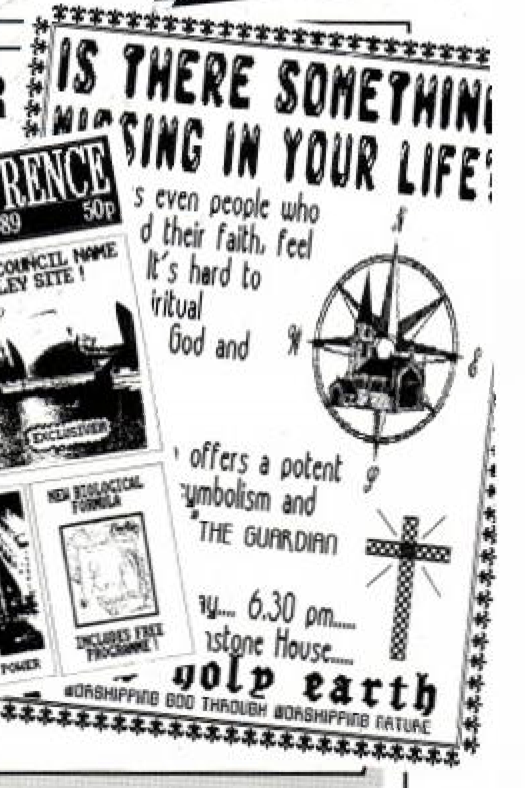
It's at the layout stage that the magazine really becomes your own. Do you use a single typeface, or as many as you've got? Headlines in the same typeface? Headlines in boxes? Regular features with the same design/heading? Columns – how many?

Next month: How you go about getting the whole thing printed up. We'll also be updating you as to how *Arnold*, the 'almost real' CPC fanzine is getting along...

ONE I MADE EARLIER

Here are a couple of examples of layout produced entirely on *Stop Press*. To the left is a magazine cover. When initially put together, the masthead was unboxed and in standard black on white. It was 'losing out' to the four boxes below. I put a box around it, which helped a bit, and then, purely as an experiment, inverted the box. I soon realised this is what it had needed all along. To the right is a poster designed entirely with the *Stop Press* package. The border took hours of careful copying, scrolling and zoom-editing to produce, but added a lot to the finished page. Motto: Be experimental. After all, if people hadn't been experimental we'd still be writing our magazines on cave walls with a stone tied to a stick (something like that, anyway).





CREATE AND WIN!

Don't forget the ongoing *AA First Edition* competition. Answer each question correctly and you could be on the way to winning a fabulous Mannesmann Tally MT222 24-pin printer. We'll also be wanting to see your fanzines – the ones you've produced after following *First Edition*.

At the end of the series we'll print the rest of the competition rules. So keep reading, work out to answer to each question, and get ready to send in your entries.

Question four

What is the subject of this month's instalment? Is it:

a) paper recycling
b) indoor fishkeeping
c) layout



● 3: Important points can be boxed out for extra interest.

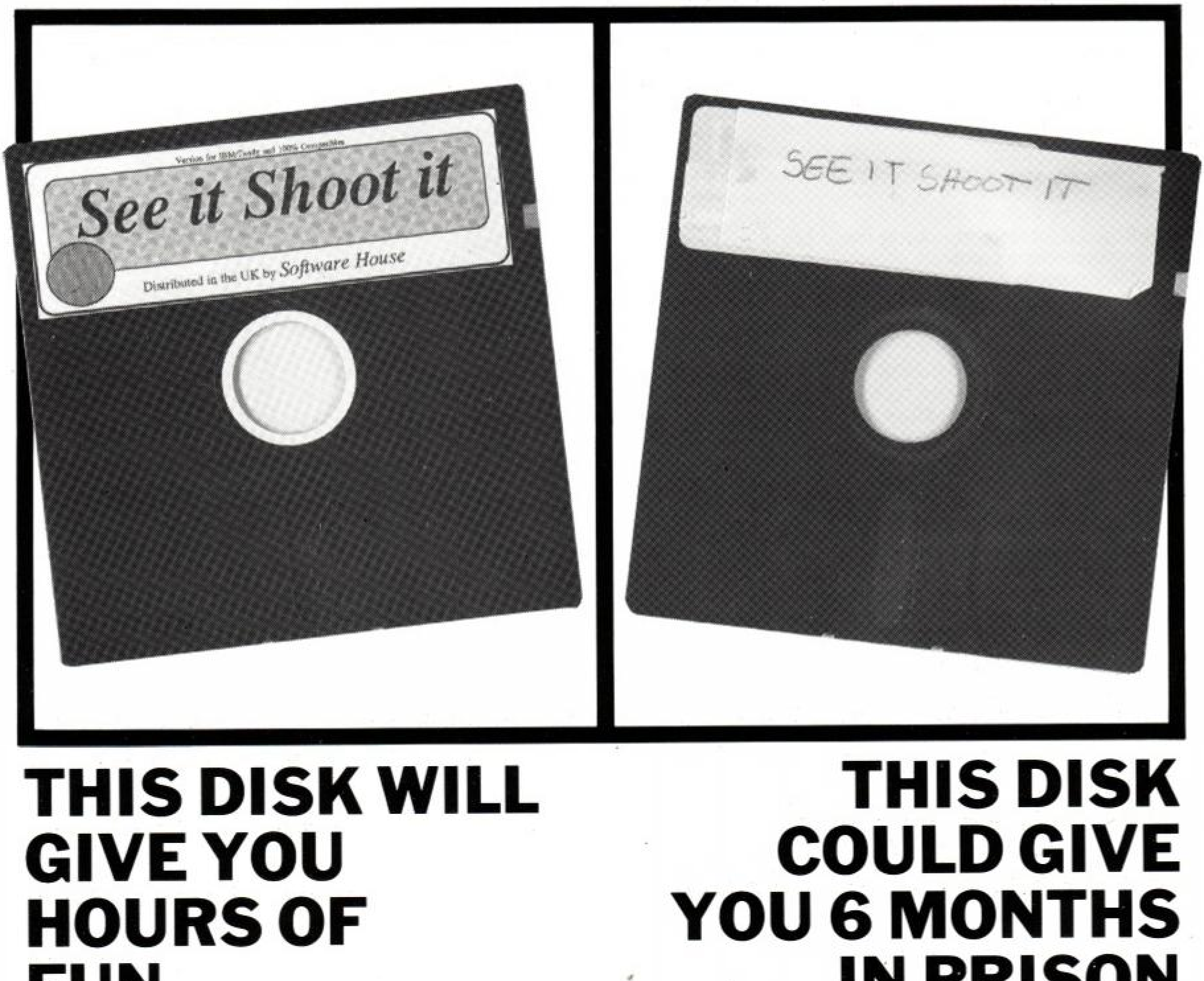


● 4: Arranging illustrations – making text flow round graphics.



● 5: Inserting headlines – generally much easier once the rest of the page has been laid out.

WARNING



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PIRACY IS THEFT

TYPE-INS

ADAM WARING introduces some Festive Frolics this Games only Christmas Edition.

LAWN MOWER SIMULATOR

J Morris of Stourmouth has written a game with a title that Codemasters would be proud of. You take control of a lawn mower, whose aim is to mow the grass without running over anything else.

```
{JoAs} 10 'set up new characters
{EkBk} 20 SYMBOL 240,221,221,221,0,119,119,119,0
{MvBj} 30 SYMBOL 241,28,62,54,62,28,73,42,28
{OwAw} 40 SYMBOL 242,28,28,8,127,28,28,20,54
{GjBi} 50 SYMBOL 250,0,199,200,240,240,200,199,0
{BiBl} 60 SYMBOL 251,227,19,15,15,19,227,0
{NmBo} 70 SYMBOL 252,126,126,24,24,36,66,129,129
{FjBl} 80 SYMBOL 253,129,129,66,36,24,24,126,126
{JlBm} 90 DIM scr(18,20):lm=67:rm=59:um=34:dm=37
{KnBv} 100 name$(1)="Erick
          ":name$(2)="'Arold":name$(3)="Ronald"
{ErBi} 110 g(1)=220:g(2)=194:g(3)=215:gar=1
{CiBm} 120 kj$=CHR$(24)+"KEYS"+CHR$(24)+"/JOYSTICK":kj=-1
{LmAn} 130 'set up inks
{OvAw} 140 FOR i=0 TO 6:READ in:INK i,in:NEXT
{JrAs} 150 DATA 1,13,12,9,3,2,18
{FvAr} 160 'print title page
{EvAw} 170 ENV 1,15,-1,10:PAPER 0:MODE 1
{EnBu} 180 PRINT STRING$(40,241):LOCATE 1,25:PRINT
          STRING$(40,241);
{AqAs} 190 WINDOW 1,40,2,24
{FrAx} 200 PRINT TAB(15)"Lawn mower"
{PqAw} 210 PRINT TAB(15)"Simulator!"
{EjAx} 220 PRINT TAB(15)"=========="
{HjAx} 230 PRINT:PRINT"Introduction"
{KnAr} 240 PRINT"============"
{MuGr} 250 PRINT"You're the neighbourhood lawn mower.
          Youhave to mow the lawn in three gardens,  but
          be careful that you don't mow down  the
          flowers, crash into the wall or pondor run
          over the Missus, you'll be sackedif you do!"
{DnAx} 260 PAPER 0:PEN 1:LOCATE 1,14
{IqAs} 270 PRINT"1) PLAY GAME"
{EqAs} 280 PRINT:PRINT"2) "+kj$
{OqBj} 290 PAPER 0:PEN 1:PRINT:PRINT"3) QUIT"
{CvAw} 300 PRINT:PRINT"Please choose:-"
{ErAu} 310 WHILE 1:a$=INKEY$
{AjAw} 320 IF a$="1" THEN GOTO 430
{IqAw} 330 IF a$="2" THEN GOTO 370
{FiBt} 340 IF a$="3" THEN MODE 1:PAPER 0:PEN 1:CALL
          &BC02:END
{DiAl} 350 WEND
{IxBl} 360 'alternate between keys and joystick
{HkAv} 370 kj=NOT kj:IF kj THEN 400
{KrBn} 380 PRINT CHR$(24):kj$="KEYS/"+CHR$(24)+"JOYSTICK"
{JlBl} 390 lm=74:rm=75:um=72:dm=73:GOTO 260
{LoBj} 400 kj$=CHR$(24)+"KEYS/"+CHR$(24)+"JOYSTICK"
{LpBk} 410 lm=67:rm=59:um=34:dm=37:GOTO 260
{GwAu} 420 'set up screen variables
{MrBj} 430 dx=2:dy=17:ix=0:iy=0:p$=CHR$(250)
{FpBp} 440 IF gar=1 THEN mx=2:my=6:RESTORE 1150
{BlBq} 450 IF gar=2 THEN mx=2:my=6:RESTORE 1360
{CjBn} 460 IF gar=3 THEN mx=6:my=3:RESTORE 1570
{EvBp} 470 'print screen and set up more screen variables
{LnAs} 480 GOSUB 990:in=gar/10
{AvBn} 490 PAPER 6:PEN 5:LOCATE mx,my:PRINT p$
{FoAu} 500 IF dx<mx THEN dix=in
{CvAx} 510 IF dx>mx THEN dix=-in
{KlAw} 520 IF dy<my THEN diy=in
{HqAv} 530 IF dy>my THEN diy=-in
{BoAt} 540 d=scr(dx+dix,dy+diy)
{BxBo} 550 IF d<>0 AND d<>5 THEN dix=0:diy=0
{FiBk} 560 PAPER col:LOCATE dx,dy:PRINT" ";
{GqAt} 570 IF d=0 THEN col=3
{PoAs} 580 IF d=5 THEN col=6
{NtAr} 590 dx=dx+dix:dy=dy+diy
{MvBo} 600 IF mx=dx MOD 19 AND my=dy MOD 19 THEN 760
{DpBm} 610 LOCATE dx,dy:PAPER col:PRINT CHR$(242);
{NlBo} 620 IF INKEY(lm)>-1 THEN ix=-1:p$=CHR$(250):iy=0
{LxBq} 630 IF INKEY(rm)>-1 THEN ix=1:p$=CHR$(251):iy=0
{AwBr} 640 IF INKEY(um)>-1 THEN iy=-1:p$=CHR$(252):ix=0
{CnBr} 650 IF INKEY(dm)>-1 THEN iy=1:p$=CHR$(253):ix=0
{EsBk} 660 PAPER 6:LOCATE mx,my:PRINT" "
{LuAs} 670 mx=mx+ix:my=my+iy
{FqBj} 680 s=scr(mx,my):IF s=5 THEN 490
{JnAr} 690 IF s=0 THEN 740
{MnAv} 700 IF s>0 AND s<5 THEN 760
{GxAs} 710 FOR w=1 TO (4-g)*50:NEXT
{KoAm} 720 GOTO 490
{AsAr} 730 'increase score
{OkBx} 740 sc=sc+1:scr(mx,my)=5:g=g+1:IF g=g(gar) THEN
          860 ELSE 490
{NnAm} 750 'crashed!
{HjAv} 760 OUT &BC00,8:OUT &BD00,1
{KrBj} 770 SOUND 1,RND*200+50,0,0,1,0,RND*31
{HlAr} 780 PAPER 0:PEN 1:CLS
{DpCr} 790 CLS:PRINT name$(INT(RND*3)+1)+"!! Come and
          tell this mower   he is FIRED!!"
{DlBx} 800 IF dx=mx AND dy=my THEN PRINT"He ran over me
          he did!"
{MwAv} 810 OUT &BC00,8:OUT &BD00,0
{FmBs} 820 PRINT:PRINT"You managed to mow ";sc;" square
          feet"
{GwBp} 830 PRINT:PRINT"Press any key":WHILE
          INKEY$<>"":WEND
{JrBo} 840 sc=0:g=0:CALL &BB18:MODE 1:GOTO 180
{IpAx} 850 'finished screen and on to next
{NjBu} 860 FOR i=100 TO 50 STEP -2:SOUND
          1,i,2,15:NEXT:SOUND 1,i,0,0,1
{JqBo} 870 PRINT:PRINT"You have finished the garden!!"
{CsBm} 880 PRINT"You can now go onto the next"
{DuAt} 890 PRINT"Press any key."
{AiAx} 900 CALL &BB18:gar=gar+1:g=0
{PuAv} 910 IF gar=4 THEN GOTO 940
{OwAl} 920 GOTO 430
{CnBm} 930 'message if completed all 3 screens
{GrBw} 940 a$="CONGRATULATIONS!! You must be brilliant.
          OR have you cheated? I hope that you havn't.
          'What now?' you may well ask. Well finish
          reading this message for one!
          ....................Credits all go to me -
          J.Morris! Thankyou. Well done anyway.Bravo!"
{NoBo} 950 FOR i=1 TO 246:LOCATE 1,1:PRINT MID$(a$,i,18);
{HpAu} 960 FOR j=1 TO 10:NEXT:NEXT
{CjBo} 970 PRINT"Press any key!":CALL &BB18:GOTO 170
{AxAs} 980 'Print screen etc.
{KxAl} 990 MODE 0
{PmAw} 1000 ORIGIN 24,386,24,626,388,360:CLG 3
{CoBr} 1010 WINDOW #1,2,19,2,3:PAPER #1,1:PEN #1,0:CLS #1
{AxBi} 1020 ORIGIN 24,386,24,626,320,8:CLG 3
{FwBm} 1030 WINDOW 2,19,5,24:PAPER 0:PEN 1:CLS
{EpAp} 1040 FOR i=1 TO 20
{GmAm} 1050 READ a$
{IrAq} 1060 FOR l=1 TO 18
{KjAv} 1070 m$=MID$(a$,1,1):v=VAL(m$)
{DmAv} 1080 scr(l,i)=v:LOCATE 1,i
{MuBk} 1090 ON v+1 GOSUB 1110,1120,1130,1140
{CrAp} 1100 NEXT:NEXT:RETURN
{IiBn} 1110 PEN 3:PRINT CHR$(143);:RETURN:'grass
{HuBp} 1120 PEN 4:PAPER 1:PRINT CHR$(240);:RETURN:'wall
{BsBq} 1130 PEN 2:PAPER 6:PRINT CHR$(241);:RETURN:'flower
{DxBq} 1140 PAPER 0:PEN 5:PRINT CHR$(127);:RETURN:'water
{HpAu} 1150 DATA 111111111111111111
{ArAs} 1160 DATA 122222222222222221
{IiAt} 1170 DATA 122222222322233221
{NwAt} 1180 DATA 122222222322333321
{KoAs} 1190 DATA 100000000333333321
{GkAt} 1200 DATA 100000000033333321
{PtAq} 1210 DATA 100000000000033221
{PxAp} 1220 DATA 100000000000000021
{JiAp} 1230 DATA 100000000000000001
{EnAq} 1240 DATA 100000000000000001
{DsAr} 1250 DATA 100000000000000001
{KxAq} 1260 DATA 100000000000000001
{QnAq} 1270 DATA 100000000000000001
{BrAq} 1280 DATA 100000000000000001
{MwAq} 1290 DATA 100000000000000001
{ElAq} 1300 DATA 100000000000000001
{EsAq} 1310 DATA 100000000000000001
{JjAq} 1320 DATA 100000000000000001
{NqAp} 1330 DATA 100000000000000001
{AqAv} 1340 DATA 111111111111111111
{FjAo} 1350 'garden 2
{PoAu} 1360 DATA 111111111111111111
{NvAu} 1370 DATA 111111111111111111
{HwAu} 1380 DATA 111111333311112222
{MiAu} 1390 DATA 111133333333111222
{GpAu} 1400 DATA 133333333333311122
{BtAs} 1410 DATA 100000000033333112
{DtAp} 1420 DATA 100000000000000012
{CiAp} 1430 DATA 100000000000000001
{KmAq} 1440 DATA 100000000001111111
{LwAr} 1450 DATA 100000000111111111
{CjAr} 1460 DATA 100000011100000001
{OnAp} 1470 DATA 100000010000000001
{LwAq} 1480 DATA 100000010000000001
{DoAp} 1490 DATA 100000000000000001
{CpAp} 1500 DATA 100000000000000001
{JkAp} 1510 DATA 100000000000000001
{FwAq} 1520 DATA 100000000100000001
{MrAp} 1530 DATA 100000000100000001
{DmAq} 1540 DATA 100000000100000001
{CpAv} 1550 DATA 111111111111111111
{DnAn} 1560 'garden 3
{PvAu} 1570 DATA 111111111111111111
{IiAv} 1580 DATA 133311111111111111
{HiAr} 1590 DATA 133330000000000001
{GqAq} 1600 DATA 100033000000000001
{PvAr} 1610 DATA 100003000000000021
{GmAr} 1620 DATA 100003000000000221
{GjAr} 1630 DATA 100003000000000221
{FwAs} 1640 DATA 100003000000000221
{HvAq} 1650 DATA 100003300000000021
{KpAq} 1660 DATA 100000000000000001
{FlAq} 1670 DATA 100003300000000001
{BkAs} 1680 DATA 133333300000000001
{CxAu} 1690 DATA 111111101111111111
{EtAq} 1700 DATA 100000000000000001
{NsAp} 1710 DATA 100000000000000001
{IvAq} 1720 DATA 100000000000000021
{IoAq} 1730 DATA 100000000000000221
{NrAr} 1740 DATA 100000000000022221
{AkAt} 1750 DATA 100000000022222221
{IwAu} 1760 DATA 111111111111111111
```

●

HANGMAN

This computerised version of the old favourite is brought to you courtesy of Ken Maclachlan, Milton Keynes. The computer has a dictionary of fifty words for the one-player version of the game, which can be edited by altering lines 116-128.

```
{DvAn} 1 'Hangman
{LtAr} 2 'By Ken Maclachlan
{FsAj} 3 '
{AlAr} 4 'set screen up
{FuAj} 5 '
{HtBi} 6 CLS:MODE 1:CLEAR INPUT:CLEAR
{JlBu} 7 INK 2,15:INK 3,0:INK 1,18:INK 0,0:BORDER 0:PAPER
        0:PEN 1
{PnBs} 8 SYMBOL 255,238,238,238,238,238,238,238,247:'Legs
{EuBo} 9 SYMBOL 254,255,231,255,231,255,231,255,255:'body
{AoCj} 10 LOCATE 1,22:PRINT"          "+CHR$(205)+"
        Letter Selector "+CHR$(204)
{LuCl} 11 WINDOW #3,14,40,11,11:WINDOW #2,23,39,4,7:
        WINDOW #4,2,13,17,20
{MtCl} 12 PLOT 0,62,1:DRAW 639,62:DRAW 639,0:DRAW
        0,0:DRAW 0,61:PLOT 0,48:DRAW 638,48
{DmDl} 13 MOVE 270,62,1:DRAWR 0,64:DRAWR 150,0:DRAWR 0,-
        15:DRAWR 15,0:DRAWR 0,-15:DRAWR 15,0:DRAWR 0,-
        15:DRAWR 15,0:DRAWR 0,-17
{IiAi} 14 '
{PiDr} 15 LOCATE 1,1:PRINT STRING$(12,128);
        " H A N G M A N ";STRING$(13,128):LOCATE
        1,2:PRINT STRING$(12,128);" ———";
{LnBm} 16 LOCATE 1,4:PRINT"Computer Word 1-50"
{JoBn} 17 LOCATE 1,5:PRINT"Or Enter 0 to cont"
{NkBl} 18 LOCATE 1,7:PRINT"Visual Entry Y/N"
{GpBw} 19 FOR t=13 TO 21:LOCATE 15,t:PRINT
        CHR$(209);:NEXT:'upright
{PwBs} 20 FOR t=16 TO 21:LOCATE t,13:PRINT
        CHR$(208):NEXT:'jib
{IxBj} 21 PLOT 240,170,1:DRAW 260,205:'brace
{EmAx} 22 MOVE 326,205,1:DRAWR 0,-28:'Rope
{IkAj} 23 '
{LnAj} 24 '
{OuAr} 25 'restart line number
{GoBi} 26 man$(0)=" "+CHR$(225)+" ":'face
{IsBs} 27 man$(1)=CHR$(204)+CHR$(254)+CHR$(205):'arms
        body
{NmBi} 28 man$(2)=" "+CHR$(255)+" ":'LEGS
{CtBk} 29 INK 2,15:INK 3,0:INK 1,18:INK 0,0
{CrCi} 30 a=112:b=11:st=1:ans=0:count=0:incr=260:
        one=1:cor=0:cc=203
{FmBi} 31 a$="ABCDEFGHIJKLMNOPQRSTUVWXYZ"
{IkAi} 32 '
{LoAj} 33 '
{EtBj} 34 LOCATE 1,10:PRINT"Enter Words :"
{HpBo} 35 LOCATE 2,24:PRINT SPACE$(4);"* ";a$;" *"
{DnAt} 36 LOCATE 24,5:INPUT"",xx$
{PiCw} 37 IF VAL(xx$)<1 OR VAL(xx$)>50 THEN CLS #2:LOCATE
        24,5:PRINT"0" ELSE INK 2,0:xx=VAL(xx$):GOTO 41
{DpAu} 38 LOCATE 24,7:INPUT"",p$
{PsDn} 39 IF p$="N" OR p$="n" THEN LOCATE 24,7:PRINT"N
        ":INK 2,0 ELSE INK 2,15:LOCATE 24,7:PRINT"Y  "
{BjCj} 40 PEN 2:PAPER 1:PAPER 3:LOCATE
        14,10:INPUT"",word$:INK 2,0:PAPER 0
{JtCk} 41 GOSUB 107:PEN 2:PAPER 0:LOCATE 14,10:PRINT
        word$:PEN 1:PAPER 0
{LkBk} 42 IF word$="" THEN CLS #2:CLEAR:GOTO 25
{IuAx} 43 w$=UPPER$(word$):k=LEN(w$)
{KwDi} 44 IF k>27 THEN PRINT #3,"One Line MAX Press Any
        Key":CLEAR INPUT:CALL &BB18:CLS #0:GOTO 6
{KoBm} 45 FOR t=1 TO k:PRINT #3,"-";:NEXT
{IrAj} 46 '
{NsAs} 47 'check for spaces
{FtAn} 48 n=1:am=0
{JqAr} 49 FOR t=n TO 26
{OmBx} 50 IF INSTR(n,w$," ")=t THEN am=am+1:LOCATE
        13+t,11:PRINT" "
{MtAm} 51 n=n+1
{GwAk} 52 NEXT
{NpDu} 53 IF k<26 THEN nn=k:FOR t=40 TO 14+nn STEP -
        1:LOCATE t,10:PRINT" ":NEXT:'Paper colour is
        changed for red man
{EwAm} 54 k=k-am
{IsAj} 55 '
{LuAt} 56 'Rectangle Appearance
{FuBt} 57 MOVE a-1,b-9:DRAWR 0,45,1:DRAWR 16,0:DRAWR 0,-
        45:DRAWR -16,0
{LsBv} 58 CLS #2:PRINT #4,"CURSOR KEY'S   AND     SPACE
        BAR       "+CHR$(241)
{BnCi} 59 MOVE 349,285,1:DRAWR 0,69:DRAWR 277,0:DRAWR 0,-
        69:DRAWR -277,0
{PkBx} 60 PRINT #2,"> Wrong Letters <  ———":CALL
        &BB18:CLS #4
{OmAi} 61 '
{MiAu} 62 'Key's off Rectangle
{FqBu} 63 MOVE a-1,b-9:DRAWR 0,45,1:DRAWR 16,0:DRAWR 0,-
        45:DRAWR -16,0
{LvCm} 64 IF INKEY(1)=0 THEN incr=incr-59:GOSUB
        71:a=a+16:st=st+1 ELSE incr=260
{CkCk} 65 IF INKEY(8)=0 THEN one=one+59:GOSUB 71:a=a-
        16:st=st-1 ELSE one=1
{FkBk} 66 IF a>512 THEN a=512:st=26:'496
{BnAv} 67 IF a<112 THEN a=112:st=1
{JnBm} 68 IF INKEY(47)=0 THEN ans=ans+1:GOSUB 79
{CwAm} 69 GOTO 63
{NwAi} 70 '
{BiAt} 71 'Move rectangle
{EwAj} 72 '
{IuBu} 73 MOVE a-1,b-9:DRAWR 0,45,1:DRAWR 16,0:DRAWR 0,-
        45:DRAWR -16,0
{EvAt} 74 SOUND 1,1,4,4,,,4
{MkBi} 75 FOR delay=one TO incr:NEXT:FRAME
{HrBu} 76 MOVE a-1,b-9:DRAWR 0,45,0:DRAWR 16,0:DRAWR 0,-
        45:DRAWR -16,0
{GpAn} 77 RETURN
{JwAi} 78 '
{AuAv} 79 'Hangman letter check
{IoBx} 80 IF MID$(a$,st,1)="_" THEN RETURN:'stops it
        repeating
{EqAk} 81 '
{FqBn} 82 FOR u=300 TO 1 STEP -10:SOUND 1,u,1:NEXT
{NvAl} 83 PEN 1
{FmAx} 84 find$=MID$(a$,st,1):s=0:g=0
{InAt} 85 FOR x=s TO 26:s=s+1
{JtCr} 86 IF INSTR(s,w$,find$)=s THEN LOCATE
        14+x,10:PRINT MID$(a$,st,1);:g=1:cor=cor+1
{AmAk} 87 NEXT
{PtBp} 88 IF cor=k THEN GOSUB 100:'BEAT THE HANGMAN
{IjBi} 89 IF g=1 THEN GOTO 99 ELSE 90
{EiAj} 90 '
{LvAq} 91 'Wrong Letters
{PpAl} 92 PEN 1
{OwBs} 93 TAGOFF:CLEAR INPUT:PRINT #2," ";MID$(a$,st,1);"
        ";
{BvBv} 94 IF count<3 THEN LOCATE 20,15+count:PRINT
        man$(count)
{AkAp} 95 count=count+1
{GnCm} 96 IF count>3 THEN INK 3,3:PEN 3:LOCATE
        20,15+count-4:PRINT man$(count-4)
{HoCl} 97 IF count=6 THEN INK 2,15,23:CLEAR
        INPUT:TAGOFF:PEN 1:GOTO 132:'Hung
{NlAl} 98 PEN 1
{EtCr} 99 MID$(a$,st,1)="_":LOCATE 7+st,24:PRINT
        MID$(a$,st,1):RETURN:'JUST RETURN
{OqAi} 100 '
{CiAu} 101 'Well done message
{ItBt} 102 FOR d=10 TO 1 STEP -1:SOUND 1,30,18,d,,1:NEXT
{GtBj} 103 INK 2,15,23:INK 3,3:PAPER #2,3:CLS #2
{ElGs} 104 CLEAR INPUT:PEN 2:LOCATE 20,16:PRINT"
        "+CHR$(254)+" ":LOCATE 20,15:PRINT
        CHR$(205)+CHR$(224)+CHR$(204):LOCATE
        21,17:PRINT CHR$(255):PEN 1:PRINT #2,"  Well
        Done !    ":PRINT #2,"> Press Any KEY <":PAPER
        #2,0
{KjAw} 105 CALL &BB18:wd=1:GOTO 144
{OxAm} 106 RETURN
{IiAp} 107 'computer Words
{PiAi} 108 '
{DmAm} 109 PEN 1
{JnAv} 110 ENT 1,2,36,4:SOUND 1,10,1,4
{AvAk} 111 '
{HoAs} 112 FOR hh=1 TO xx
{IkAp} 113 READ word$
{EuAl} 114 NEXT
{LsAm} 115 RETURN
{HoBi} 116 DATA TYPICAL,GOODBYE,ENDEAVOUR,PLEASE
{PvBo} 117 DATA MASTERPIECE,FIBRE,SENTIMENTAL,HUMOROUS
{BmBo} 118 DATA INEXPENSIVE,INFECTIOUS,DEVELOPMENT,BUSI
        NESS
{DiBt} 119 DATA SIMULTANEOUS,SIMPLICITY,VOCABULARY,WEL
        FARE
{ItBl} 120 DATA TWINKLE,FANTASTIC,FAMILIAR,DWARF
{KqBt} 121 DATA CONSTRUCTIVE,CONSTITUTION,BAZAAR,AFFLUENT
{FlBl} 122 DATA VARIETY,WOEFUL,ZOMBIE,YOUNGSTER
{BnBr} 123 DATA GRIEVOUS,PROTECTION,PSYCHIATRY,PSYCHOLOG
        ICAL
{GtBq} 124 DATA MEMORIAL,MEDIOCRE,MEASUREMENT,PRIVILEGE
{KrBp} 125 DATA PROCESSION,PROCLAMATION,PRODIGY,RECOGNIZE
{ImBt} 126 DATA UNFORTUNATELY,UNILATERAL,VANDALISM,VERSA
        TILE
{MnBn} 127 DATA VOYAGE,WATERPROOF,WHOLESOME,WRISTWATCH
{BpBj} 128 DATA PRESCRIPTION,PREPOSITION
{CrAs} 129 '50 word's so far
{JwAj} 130 '
{JnAj} 131 '
{GwAq} 132 'The Hanging!
{IlAk} 133 '
{OwBm} 134 MOVE 300,126,0:DRAWR 54,0:DRAWR 0,-40,1
{FiAn} 135 gdw=0
{PiAt} 136 ON SQ(1) GOSUB 159
{PxAt} 137 FOR dw=16 TO 18
{KqAo} 138 gdw=gdw+16
{EsDt} 139 FOR t=0 TO 2:LOCATE 20,dw+t:PRINT
        man$(t):NEXT:LOCATE 20,dw-1:PRINT"   ":MOVE
        326,176,1:DRAWR 0,-gdw:TAGOFF:NEXT
{DiAj} 140 '
{FrAk} 141 '
{BqCk} 142 SOUND 1,600,4,15,,,4:FOR t=26 TO 0 STEP -
        1:SOUND 1,t,1:BORDER t:NEXT
{KnDq} 143 PAPER #2,3:CLS #2:PRINT #2,"  Oh Dear !":PRINT
        #2:PRINT #2,"> Press Any Key <":CLEAR
        INPUT:CALL &BB18:PAPER #2,0
{DuCi} 144 MOVE 349,285,0:DRAWR 0,69:DRAWR 277,0:DRAWR
        0,-69:DRAWR -277,0
{ArBp} 145 CLS #2:CLS #3:LOCATE 14,10:PRINT STRING$(27,"
        ");
{HlAw} 146 IF wd=1 THEN GOTO 155
{ArBk} 147 man$(1)=CHR$(213)+CHR$(254)+CHR$(212)
{BiBr} 148 FOR up=18 TO 3 STEP -1:SOUND 1,16+up,8,6,,4
{GvCr} 149 FOR t=0 TO 2:LOCATE 20,up+t:PRINT
        man$(t):NEXT:LOCATE 20,up+3:PRINT"   ":NEXT
{PsBm} 150 FOR t=0 TO 2:LOCATE 20,3+t:PRINT"   ":NEXT
{BvAk} 151 '
{AkCi} 152 FOR t=20 TO 21:LOCATE t,13:PRINT
        CHR$(208):NEXT:'jib sort
{OvBj} 153 MOVE 326,205,1:DRAWR 0,-28:'Rope sort
{KnCk} 154 MOVE 354,126,0:DRAWR 0,-40:MOVE
        300,126,1:DRAWR 54,0:'trap sort
{BxCi} 155 MOVE a-1,b-9:DRAWR 0,45,0:DRAWR 16,0:DRAWR 0,-
        45:DRAWR -16,0:'RUB OUT
{OmAj} 156 '
{CrBu} 157 FOR t=0 TO 2:LOCATE 20,15+t:PRINT"
        ":NEXT:'man rub
{DkAv} 158 CLEAR INPUT:CLEAR:GOTO 25
{FjBv} 159 FOR t=1 TO 8:SOUND 1,60+t,t:SOUND
        1,16+t,2:NEXT:RETURN ●
```

SIMON

Veteran poker Mike Wong from Sale has taken a break from all that hacking and produced this excellent implementation of that plastic pal of yesteryear, *Simon*. Try to remember the sequence of flashing lights and sounds.

```
{CkAt} 10 GOSUB 1270 'initialise
{JkAo} 20 GOSUB 410 'status
{GxAq} 30 REM INSTRUCTIONS
{LoBq} 40 PRINT#1,"f8":PRINT#2,"f9":PRINT#3,
       "f6":PRINT#4,"f5"
{DjBn} 50 PRINT#6," 'P'lay 'S'kill 'L'ives 'H'ints"
{GtAm} 60 REM MENU
{NrBk} 70 IF INKEY(60)<>-1 THEN GOSUB 130
{NiBl} 80 IF INKEY(44)<>-1 THEN GOSUB 270
{FqBl} 90 IF INKEY(36)<>-1 THEN GOSUB 310
{InBi} 100 IF INKEY(27)<>-1 THEN 350
{DqAm} 110 GOTO 70
{IqAp} 120 REM ALTER SKILL
{HkAx} 130 sk=sk+1:SOUND 1,129,5,15
{EwAt} 140 IF sk<>5 THEN 170
{AmBm} 150 LOCATE 27,12:PAPER 1:PRINT SPACE$(8)
{NsBt} 160 LOCATE 27,12:PEN 2:PAPER 0:PRINT"P":sk=-1:GOTO
       180
{AlAw} 170 p=sk:x=28:y=12:GOSUB 510
{DoBr} 180 IF sk=-1 THEN LOCATE 27,15:PRINT"-":GOTO 250
{BkAu} 190 IF sk=0 THEN tl=60
{ClAu} 200 IF sk=1 THEN tl=20
{AoAu} 210 IF sk=2 THEN tl=10
{NxAt} 220 IF sk=3 THEN tl=7
{CmAt} 230 IF sk=4 THEN tl=3
{OtBi} 240 LOCATE 27,15:PRINT USING"##";tl
{OrAm} 250 RETURN
{BpAq} 260 REM ALTER HINTS
{CkAx} 270 ht=ht+1:SOUND 1,129,5,15
{IkAt} 280 IF ht=6 THEN ht=0
{MiAq} 290 GOSUB 410:RETURN
{OsAp} 300 REM ALTER LIVES
{EpAw} 310 li=li+1:SOUND 1,129,5,15
{DmAu} 320 IF li=6 THEN li=1
{PkAq} 330 GOSUB 410:RETURN
{FoAl} 340 REM GAME
{OqBj} 350 pl=1:SOUND 1,129,5,15:GOSUB 410
{JwAs} 360 de=100:GOSUB 700:CLS#6
{BjBj} 370 FOR n=1 TO 4:PAPER#n,1:CLS#n:NEXT
{JqAl} 380 GOTO 780
{FpAv} 390 REM GENERAL SUBROUTINES
{LqAn} 400 REM STATUS
{DnAv} 410 PEN 2:PAPER 0:LOCATE 27,3
{KsAu} 420 PRINT USING"########";sc
{AqAu} 430 IF sc>=hi THEN hi=sc
{IsBk} 440 LOCATE 27,6:PRINT USING"########";hi
{CwAq} 450 LOCATE 27,21
{OkCp} 460 IF pl=0 THEN PRINT"  OFF   " ELSE IF pl=1 THEN
       PRINT"  WAIT  " ELSE PRINT"  PRESS "
{GwAt} 470 p=li:x=27:y=9:GOSUB 510
{OoAu} 480 p=ht:x=27:y=18:GOSUB 510
{MrAn} 490 RETURN
{KoAs} 500 REM lives,skill,hints
{GsBl} 510 LOCATE 27,y:PAPER 1:PRINT SPACE$(8)
{KtBn} 520 PEN 2:PAPER 0:LOCATE x+p,y:PRINT USING"#";p
{KxAn} 530 RETURN
{FuAt} 540 REM RANDOM NUMBER
{NiBj} 550 r=0:CALL &BE80,@r:RANDOMIZE r
{EiAr} 560 r=INT(RND*255)
{LoBj} 570 IF r<64 THEN ra=1:GOTO 610
{IkBl} 580 IF r<128 THEN ra=2:GOTO 610
{ExBj} 590 IF r<192 THEN ra=3:GOTO 610
{OlAk} 600 ra=4
{DxAx} 610 a=a+RIGHT$(STR$(ra),1):RETURN
{EoAr} 620 REM WINDOW FLASH
{KiBl} 630 IF w=1 THEN INK 3,6:SOUND 1,956,10,15
{AkBm} 640 IF w=2 THEN INK 3,24:SOUND 1,478,10,15
{ItBm} 650 IF w=3 THEN INK 3,9:SOUND 1,239,10,15
{BvBn} 660 IF w=4 THEN INK 3,2:SOUND 1,119,10,15
{MpAv} 670 PAPER#w,3:CLS#w:GOSUB 700
{InAt} 680 PAPER#w,1:CLS#w:RETURN
{HwAn} 690 REM DELAY
{FuBj} 700 FOR n=1 TO de:CALL &BD19:NEXT
{MpAn} 710 RETURN
{GsAn} 720 REM TIMER
{FoAv} 730 IF sk=-1 THEN RETURN
{NuAt} 740 tl=tl-1:LOCATE 27,15
{DpAs} 750 PRINT USING"##";tl
{CsAx} 760 SOUND 1,129,5,10:RETURN
{KmAn} 770 REM MAIN GAME
{CoAl} 780 a=""
{PmCm} 790 IF ht>0 THEN PRINT#6,SPACE$(9)"SPACE for HINT"
       ELSE PRINT#6,SPACE$(23)
{MtAm} 800 GOSUB 550
{BlAs} 810 FOR lp=1 TO nu
{NuAs} 820 w=VAL(MID$(a,lp,1))
{LiAr} 830 de=30:GOSUB 630
{OrAk} 840 NEXT
{GiAq} 850 PEN 2:PAPER 0
{JkAo} 860 pl=2:GOSUB 410
{IrAq} 870 FOR lp=1 TO nu
{KtAt} 880 ww=VAL(MID$(a,lp,1))
{BrAu} 890 EVERY 50,1 GOSUB 730
{JiAo} 900 REM WAIT KEYS
{NsBi} 910 IF tl=0 THEN lp=nu+1:GOTO 1180
{LkBm} 920 IF INKEY(11)<>-1 THEN w=1:GOTO 980
{CuBp} 930 IF INKEY(3)<>-1 THEN w=2:GOTO 980
{MpBm} 940 IF INKEY(4)<>-1 THEN w=3:GOTO 980
{AnBp} 950 IF INKEY(12)<>-1 THEN w=4:GOTO 980
{GnBr} 960 IF INKEY(47)<>-1 AND ht>0 THEN GOSUB 1090
{BiAm} 970 GOTO 910
{JnBj} 980 r=REMAIN(1):IF w<>ww THEN 1010
{GuAs} 990 de=5:GOSUB 630:sc=sc+10
{HvAs} 1000 GOSUB 180:GOTO 1020
{IwAr} 1010 lp=nu+1:GOTO 1180
{PtAp} 1020 GOSUB 410:NEXT
{IsAq} 1030 pl=1:GOSUB 410
{CpAp} 1040 REM NEXT ONE
{GlAw} 1050 nu=nu+1:IF nu=21 THEN 1610
{BrAt} 1060 SOUND 1,30,0,15,3
{OpAu} 1070 de=50:GOSUB 700:GOTO 800
{ClAn} 1080 REM HINT
{MwBi} 1090 IF ww=1 THEN INK 3,6,13
{MvAx} 1100 IF ww=2 THEN INK 3,24,13
{NvAw} 1110 IF ww=3 THEN INK 3,9,13
{KtAv} 1120 IF ww=4 THEN INK 3,2,13
{BiAt} 1130 PAPER#ww,3:CLS#ww
{EtAr} 1140 de=40:GOSUB 700
{PmAp} 1150 PAPER#ww,1:CLS#ww
{HsAx} 1160 ht=ht-1:GOSUB 410:RETURN
{AxAp} 1170 REM WRONG CHOICE
{FxAp} 1180 r=REMAIN(1)
{ClAt} 1190 SOUND 1,1911,30,15
{IxAu} 1200 pl=1:li=li-1:ht=ht+2
{BqAu} 1210 IF ht>5 THEN ht=5
{OlAr} 1220 GOSUB 410:GOSUB 180
{LrAu} 1230 IF li=0 THEN 1830
{MuAq} 1240 de=100:GOSUB 700
{KtAo} 1250 GOTO 790
{PtAq} 1260 REM INITIALISE
{KlBl} 1270 CALL &BC02:CALL &BB4E:MODE 1
{DnAr} 1280 INK 0,0:INK 1,13
{PsAw} 1290 INK 2,26:INK 3,10:BORDER 0
{OtAv} 1300 RANDOMIZE TIME:SPEED INK 5,5
{IlAw} 1310 DEFINT h,l,n,p,r,s,x,y,w
{IqAn} 1320 DEFSTR a
{ClBn} 1330 sk=0:ht=5:sc=0:hi=0:li=5:pl=0:nu=1
{OrAx} 1340 ENV 1,15,1,3:ENV 2,10,-1,2
{LkBo} 1350 ENV 3,1,0,2,1,-2,1,5,-1,2,7,-1,8
{AuAx} 1360 RESTORE 2050:FOR n=1 TO 6
{FwBl} 1370 READ n1,n2,n3,n4:WINDOW#n,n1,n2,n3,n4
{PtAu} 1380 NEXT:PAPER#5,1:CLS#5
{AmBl} 1390 FOR n=1 TO 4:PAPER#n,1:PEN#n,0:NEXT
{KtAu} 1400 PAPER#6,1:PEN#6,0:CLS#6
{GwAr} 1410 PEN 2:PAPER 1
{PoBk} 1420 RESTORE 1930:FOR n=2 TO 20 STEP 3
{BvBi} 1430 READ a$:LOCATE 27,n:PRINT a$:NEXT
{OjAv} 1440 p=sk:x=28:y=12:GOSUB 510
{FrAn} 1450 GOSUB 190
{LmBl} 1460 PAPER 1:LOCATE 29,15:PRINT"  secs"
{FnAs} 1470 x=5:y=2:GOSUB 1560
{CrAs} 1480 x=16:GOSUB 1560
{CmAs} 1490 x=5:y=13:GOSUB 1560
{PlAq} 1500 x=16:GOSUB 1560
{EkAq} 1510 RESTORE 1540
{DxAu} 1520 FOR n=&BE80 TO &BE89:READ a$
{MoAv} 1530 POKE n,VAL("&"+a$):NEXT
{GtBi} 1540 DATA dd,6e,0,dd,66,1,ed,5f,77,c9
{AsAo} 1550 RETURN
{CoAw} 1560 PLOT (x-1)*16-1,400-(y-1)*16,0
{IsAu} 1570 DRAWR 162,0:DRAWR 0,-162
{HrAx} 1580 DRAWR -162,0:DRAWR 0,162
{LoAn} 1590 RETURN
{IiAp} 1600 REM COMPLETED
{NpBt} 1610 PRINT#6,SPACE$(8)"CONGRATULATIONS!"
       :pl=1:GOSUB 410
{DoAq} 1620 de=50:GOSUB 700
{ExAu} 1630 a="":RESTORE 1960
{MqAr} 1640 FOR lp=1 TO 24
{JiAp} 1650 GOSUB 550:NEXT
{MkAr} 1660 FOR lp=1 TO 24
{DsAt} 1670 w=VAL(MID$(a,lp,1))
{BmBj} 1680 READ sp:SOUND 1,sp,20,15,2
{HsAt} 1690 de=7:GOSUB 1760:NEXT
{NkAs} 1700 pl=1:GOSUB 410:de=100
{HjAp} 1710 GOSUB 700:nu=1
{EsAu} 1720 IF sk=4 THEN 2090
{NlAm} 1730 GOSUB 130
{DvAv} 1740 de=100:GOSUB 700:GOTO 780
{KjAp} 1750 REM END FLASH
{FiAu} 1760 IF w=1 THEN INK 3,6
{BiAw} 1770 IF w=2 THEN INK 3,24
{HlAv} 1780 IF w=3 THEN INK 3,9
{ImAv} 1790 IF w=4 THEN INK 3,2
{OjAv} 1800 PAPER#w,3:CLS#w:GOSUB 700
{DrAu} 1810 PAPER#w,1:CLS#w:RETURN
{CoAp} 1820 REM GAME OVER
{AlBp} 1830 PRINT#6,SPACE$(12)"OH DEAR":l=0:GOSUB 410
{OmAr} 1840 de=50:GOSUB 700
{HwAt} 1850 a="":RESTORE 2000
{PlAr} 1860 FOR lp=1 TO 11
{KsAq} 1870 GOSUB 550:NEXT
{DnAs} 1880 FOR lp=1 TO 11
{JuAu} 1890 w=VAL(MID$(a,lp,1))
{JsAx} 1900 READ sp,sr:SOUND 1,sp,sr,0,1
{OpAv} 1910 de=sr/2:GOSUB 1760:NEXT
{BkAn} 1920 GOTO 2090
{ArAx} 1930 DATA SCORE,HI-SCORE,LIVES
{AoAu} 1940 DATA SKILL,TIME,HINTS,PLAY
{PoAn} 1950 REM MUSIC
{IsAv} 1960 DATA 60,53,47,45,60,0
{NwAv} 1970 DATA 45,47,45,40,53,0
{ExAv} 1980 DATA 53,47,45,36,40,40
{LjAt} 1990 DATA 45,45,47,53,47,60
{CtAx} 2000 DATA 1911,120,1911,80,1911,40
{CsBl} 2010 DATA 1911,120,1607,80,1703,40
{FqAx} 2020 DATA 1703,80,1911,40,1911,80
{DjAu} 2030 DATA 2025,40,1911,120
{HoAo} 2040 REM windows
{OxBi} 2050 DATA 5,14,2,11,16,25,2,11
{EmBj} 2060 DATA 16,25,13,22,5,14,13,22
{OlAu} 2070 DATA 4,35,1,23,4,35,25,25
{NoAn} 2080 REM FINALE
{FsBl} 2090 PRINT#6,"   PRESS SPACE TO PLAY AGAIN"
{NvBk} 2100 a="":WHILE a<>" ":a=INKEY$:WEND
{CoAw} 2110 li=5:ht=5:sc=0:nu=1:GOTO 20 ●
```

COINS

This last program comes from Eileen Shinn of Solihull. Two players each have to avoid taking the last coin...

```
{IvAx} 10 REM ********* Coins *********
{PtAu} 20 REM ****** Two players ******
{BoBo} 30 REM *************************
{PuAw} 40 REM **** by Eileen Shinn ****
{CqAk} 70 REM
{OmAu} 80 REM ***** initialise *****
{IsAk} 90 REM
{NkBk} 100 DIM coins(15),pencol(15),player$(2)
{NoAw} 110 DIM coinstaken(5),row(5)
{OtAv} 120 INK 1,20: INK 2,6: INK 3,8
{EiAr} 130 PAPER 0: BORDER 1
{DvAp} 140 RANDOMIZE TIME
{CuAk} 150 REM
{GoAx} 160 GOTO 1860: REM *** instructions
{DxAl} 165 REM
{HxBj} 170 REM **** enter players' names ****
{MkAk} 180 REM
{LrAk} 190 CLS
{NoAp} 200 CALL &BB03
{JpAo} 210 FOR i=1 TO 2
{JpDo} 220 LOCATE 5,5:PEN 1:PRINT "Enter name of player
          ";i;" -":LOCATE 11,8:PRINT SPC(20):LOCATE
          11,8:INPUT " ",player$(i)
{OxBp} 230 initial$(i)=UPPER$(LEFT$(player$(i),1))
{NmAk} 240 NEXT i
{JoBn} 250 SYMBOL 255,60,66,153,165,165,153,90,60
{BnAl} 260 REM
{PkAs} 270 player=INT(RND*2)+1
{OuAn} 280 FOR i=1 TO 2
{AlBw} 290 player$(i)=UPPER$(LEFT$(player$(i),1))
          +MID$(player$(i),2,20)
{PrAk} 300 NEXT i
{AqAm} 310 REM
{BtAw} 320 REM ****** new game ******
{HiAk} 330 REM
{GvBo} 340 FOR i=1 TO 15: pencol(i)=1: coins(i)=0: NEXT i
{EpBs} 350 coinstaken=0:FOR i=1 TO 5:coinstaken(i)=0:NEXT
          i
{EuAl} 360 REM
{MrAv} 370 REM ***** draw grid *****
{DmAk} 380 REM
{PxAo} 390 CLS:PEN 1
{FxAw} 395 LOCATE 5,2:PRINT"C O I N S"
{LiAx} 396 LOCATE 5,3:PRINT"———"
{KrAn} 400 RESTORE
{FmAo} 410 FOR i=1 TO 15
{NqBo} 420 READ col,row:LOCATE col,row:PRINT CHR$(255)
{JrAk} 430 NEXT i
{MjBi} 440 DATA 20,3,18,6,22,6,16,9,20,9
{GiBn} 450 DATA 24,9,14,12,18,12,22,12,26,12
{KpBi} 460 DATA 12,15,16,15,20,15,24,15,28,15
{MqAk} 470 REM
{GtAx} 480 REM ***** set up marker *****
{BkAl} 490 REM
{GuAu} 500 col=20: row=3: coin=1
{GvAs} 510 newcol=col:newrow=row
{ClAu} 520 oldcol=col: oldrow=row
{DjBs} 530 LOCATE newcol,newrow: PEN pencol(coin):
          PRINT"*"
{EwAl} 540 REM
{JxAv} 550 REM ***** next player *****
{ExAl} 555 REM
{JmBm} 560 IF player=1 THEN player=2 ELSE player=1
{PlAu} 570 LOCATE 5,23: PRINT SPC(30)
{DjBt} 580 LOCATE 5,23: PEN 3: PRINT player$(player);" -
          to play"
{PuAj} 590 REM
{NmAv} 600 REM **** input routine ****
{MwAk} 610 REM
{EuBk} 630 IF INKEY(8)=0 THEN GOSUB 710
{LnBi} 640 IF INKEY(1)=0 THEN GOSUB 820
{GvBl} 650 IF INKEY(0)=0 THEN GOSUB 1090
{DxBj} 660 IF INKEY(2)=0 THEN GOSUB 930
{MtBj} 670 IF INKEY(9)=0 THEN GOSUB 1260
{GsBj} 680 IF INKEY(18)=0 THEN GOTO 1340
{GwAl} 690 GOTO 630
{HqAk} 700 REM
{ElAx} 710 REM **** Left arrow ****
{OqAk} 720 REM
{CmBw} 730 IF coin=1 OR coin=2 OR coin=4 OR coin=7 OR
          coin=11 GOTO 800
{EkAq} 740 newcol=oldcol-4
{FlDk} 750 LOCATE oldcol,oldrow: PEN pencol(coin): IF
          coins(coin)=0 THEN PRINT CHR$(255) ELSE PRINT
          " "
{DkAp} 760 coin=coin-1
{HtBs} 770 LOCATE newcol,oldrow: PEN
          pencol(coin):PRINT"*"
{JuAp} 780 oldcol=newcol
{ImAo} 790 GOSUB 1680
{EiAn} 800 RETURN
{JkAl} 810 REM
{JwAw} 820 REM **** right arrow ****
{EmAk} 830 REM
{JkBv} 840 IF coin=1 OR coin=3 OR coin=6 OR coin=10 OR
          coin=15 GOTO 910
{PwAq} 850 newcol=oldcol+4
{CkDk} 860 LOCATE oldcol,oldrow: PEN pencol(coin): IF
          coins(coin)=0 THEN PRINT CHR$(255) ELSE PRINT
          " "
{KoAn} 870 coin=coin+1
{AuBu} 880 LOCATE newcol,oldrow: PEN
          pencol(coin):PRINT"*"
{DwAq} 890 oldcol=newcol
{IwAo} 900 GOSUB 1680
{ItAm} 910 RETURN
{OwAk} 920 REM
{KpAw} 930 REM **** down arrow ****
{CkAl} 940 REM
{NiAp} 950 newrow=oldrow+3
{NiBl} 960 IF newrow=18 THEN newrow=15: GOTO 1070
{CoAq} 970 newcol=oldcol-2
{EvDk} 980 LOCATE oldcol,oldrow: PEN pencol(coin): IF
          coins(coin)=0 THEN PRINT CHR$(255) ELSE PRINT
          " "
{HkAt} 990 LOCATE newcol,newrow
{OiBi} 1000 IF coin=1 THEN coin=2: GOTO 1040
{HvBq} 1010 IF coin=2 OR coin=3 THEN coin=coin+2:GOTO
          1040
{DmBr} 1020 IF coin>3 AND coin<7 THEN coin=coin+3: GOTO
          1040
{NtBl} 1030 IF coin>6 AND coin<11 THEN coin=coin+4
{IkAw} 1040 PEN pencol(coin):PRINT"*"
{MuAw} 1050 oldcol=newcol: oldrow=newrow
{JuAo} 1060 GOSUB 1680
{BiAo} 1070 RETURN
{OsAk} 1080 REM
{IoAw} 1090 REM **** up arrow ****
{PmAk} 1100 REM
{KlAq} 1110 newrow=oldrow-3
{AoBm} 1120 IF newrow=0 THEN newrow=3: GOTO 1240
{JvCl} 1130 IF coin=3 OR coin=6 OR coin=10 OR coin=15
          THEN newcol=oldcol-2: GOTO 1150
{MqAr} 1140 newcol=oldcol+2
{KoDl} 1150 LOCATE oldcol,oldrow: PEN pencol(coin): IF
          coins(coin)=0 THEN PRINT CHR$(255) ELSE PRINT
          " "
{PwBi} 1160 IF coin=15 THEN coin=10: GOTO 1210
{PvBv} 1170 IF (coin>10 AND coin<15) OR coin=10 THEN
          coin=coin-4: GOTO 1210
{FjBx} 1180 IF (coin>6 AND coin<10) OR coin=6 THEN
          coin=coin-3: GOTO 1210
{HlBr} 1190 IF coin>3 AND coin<6 THEN coin=coin-2: GOTO
          1210
{MvBi} 1200 IF coin=2 OR coin=3 THEN coin=1
{JmBr} 1210 LOCATE newcol,newrow: PEN
          pencol(coin):PRINT"*"
{InAx} 1220 oldcol=newcol: oldrow=newrow
{HrAo} 1230 GOSUB 1680
{BjAo} 1240 RETURN
{AxAm} 1250 REM
{IsAw} 1260 REM **** select coin ****
{CxAm} 1265 REM
{CkBi} 1270 IF coins(coin)=1 GOTO 1310
{OjCi} 1290 IF pencol(coin)=1 THEN pencol(coin)=2 ELSE
          pencol(coin)=1
{LrBs} 1300 LOCATE oldcol,oldrow: PEN
          pencol(coin):PRINT"*"
{JrAo} 1310 GOSUB 1660
{FvAo} 1320 RETURN
{OvAk} 1330 REM
{DsBj} 1340 REM **** confirm selection ****
{HtAl} 1350 REM
{FpAv} 1360 firstime=0: row=0: row1=0
{CtBq} 1370 FOR i=1 TO 15: IF pencol(i)=2 THEN GOSUB 1550
{DmBn} 1380 IF row<>row1 THEN GOSUB 1710: GOTO 600
{PuAl} 1390 NEXT i
{IrBm} 1400 IF firstime=0 THEN GOSUB 1710: GOTO 600
{CjAp} 1410 gridrow=row
{EiAn} 1420 RESTORE
{JxAo} 1430 FOR i=1 TO 15
{GkAq} 1440 READ col,row
{AjBo} 1450 IF pencol(i)=2 THEN coins(i)=1 ELSE 1510
{HvAo} 1460 pencol(i)=1
{EiAv} 1470 LOCATE col,row:PRINT " "
{GiAw} 1480 coinstaken=coinstaken+1
{PnBp} 1490 coinstaken(gridrow)=coinstaken(gridrow)+1
{DqAu} 1500 IF coinstaken=14 GOTO 1750
{AuAl} 1510 NEXT i
{BtBs} 1520 LOCATE oldcol,oldrow:PEN pencol(coin):PRINT
          "*"
{OvAm} 1530 GOTO 550
{OqAk} 1540 REM
{IpAv} 1550 REM **** check row ****
{LwAk} 1560 REM
{MpBj} 1570 IF i=1 THEN row=1: GOTO 1620
{EiBm} 1580 IF i=2 OR i=3 THEN row=2: GOTO 1620
{CuBl} 1590 IF i>3 AND i<7 THEN row=3: GOTO 1620
{MwBm} 1600 IF i>6 AND i<11 THEN row=4: GOTO 1620
{OnBi} 1610 IF i>10 AND i<16 THEN row=5
{AvBp} 1620 IF firstime=0 THEN row1=row: firstime=1
{HuAn} 1630 RETURN
{LxAk} 1650 REM
{PoBi} 1660 REM **** time delay ****
{LrAk} 1670 REM
{CnBj} 1680 FOR t=1 TO 200: NEXT t: RETURN
{GiAl} 1700 REM
{HmAu} 1710 REM **** error beep ****
{HwAl} 1720 REM
{CkBk} 1730 LOCATE 1,1: PRINT CHR$(7): RETURN
{JuAl} 1740 REM
{KvAw} 1750 REM ***** End of Game *****
{LsAk} 1760 REM
{MwAq} 1770 garbage$=INKEY$
{NxBw} 1780 LOCATE 5,20:PRINT player$(player);" - is the
          winner!!"
{BnBq} 1790 LOCATE 5,23: PEN 3: PRINT"Another Game
          (Y/N)?"
{CvAt} 1800 WHILE INKEY$="": WEND
{MvAv} 1810 IF INKEY(43)=0 GOTO 320
{NkBl} 1820 IF INKEY(46)=0 GOTO 1830 ELSE 1790
{GvBi} 1830 CLS: CALL &BC02: PEN 1: END
{JpAl} 1850 REM
{JpAw} 1860 REM ***** Instructions *****
{NrAl} 1870 REM
{PqAq} 1880 CLS: INK 1,26
{DsBi} 1890 LOCATE 15,10:PRINT"C O I N S"
{EiBv} 1900 LOCATE 5,20:PRINT"Are instructions required
          (Y/N) ":
{ExAt} 1910 k$=UPPER$(INKEY$)
{DqBi} 1920 IF k$<>"N" AND k$<>"Y" GOTO 1910
{HjBj} 1930 IF k$="N" THEN CLS: GOTO 170
{NmAt} 1940 IF k$="Y" THEN CLS:
{HwDs} 1950 PEN 3:LOCATE 2,2:PRINT"To complete your turn
          you can take any  number of coins at a time,
          but from onlyone line at a time.":
{PvDs} 1960 LOCATE 2,6:PRINT"Move the asterisk with the
          CURSOR KEYS  and press COPY to claim the
          coin(s) of  your choice.":
{PiDq} 1970 LOCATE 2,10 :PRINT"Once you are sure your
          selection is     okay, press the ENTER key to
          confirm.":
{DlCm} 1980 LOCATE 2,13:PRINT"The object is NOT to be
          left with the   last coin.":
{NlBq} 1990 PEN 1:LOCATE 14,18: PRINT"For two players.":
{NtBv} 2000 PEN 1:LOCATE 11,23: PRINT"Press any key to
          start":
{CxAu} 2010 WHILE INKEY$="": WEND
{BjAn} 2020 GOTO 170
```

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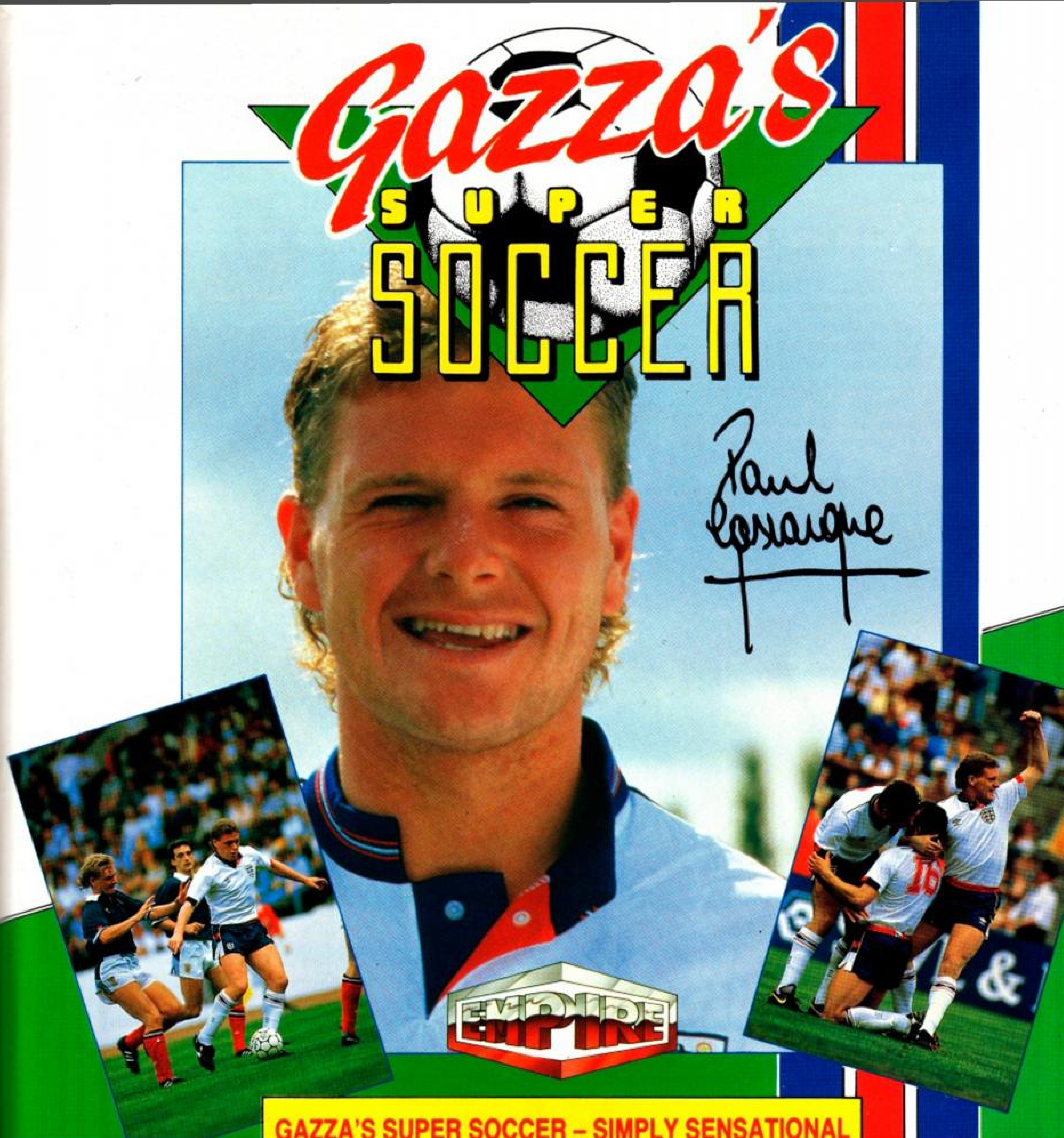
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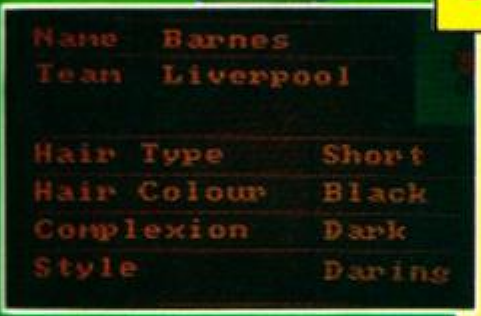
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CHEAT MODE

TRENTON opens his Christmas box of pokes

NINJA MASSACRE

Ninja Massacres have always been fun, but now you can do it any time and place you like with these passwords to every fifth level of the Codemasters '*Classic*'. **Thanks to B Hull and S Sawdry of Ware** for these words of wisdom.

5=Rain
10=Pink
15=Year
20=Rock
25=Ward
30=Hull
35=Stag
40=Beer.

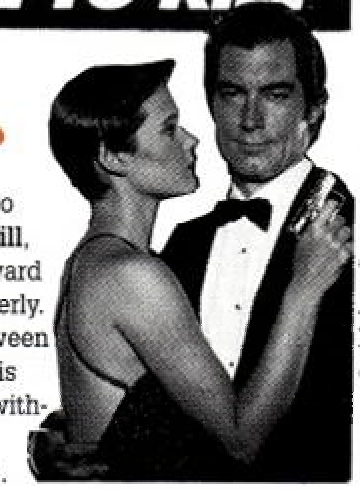




We had *Shinobi* taped for our birthday issue. Those of you who found the pace a little murderous can now relax. That that man from Sale, Mike Wong, brings you immoratilty and oodles of time. Use this poke and you too can become a throwing star! **Tape Method One.**

```
1 'Shinobi Covertape
2 'inifinite lives
3 'by Mike Wong
4 'Amstrad Action Jan 90
10 OPENOUT"d":MEMORY &A98
20 FOR n=&BE80 TO &BE94
30 READ a$:a=VAL("&"+a$)
40 POKE n,a:NEXT
50 LOAD"":CALL &BE80
60 DATA 21,89,be,22,ed,0a
70 DATA c3,99,0a,af,32,66
80 DATA 0f,3e,85,32,9d,10
90 DATA c300,0d
```

JAMES BOND 007 LICENCE TO KILL



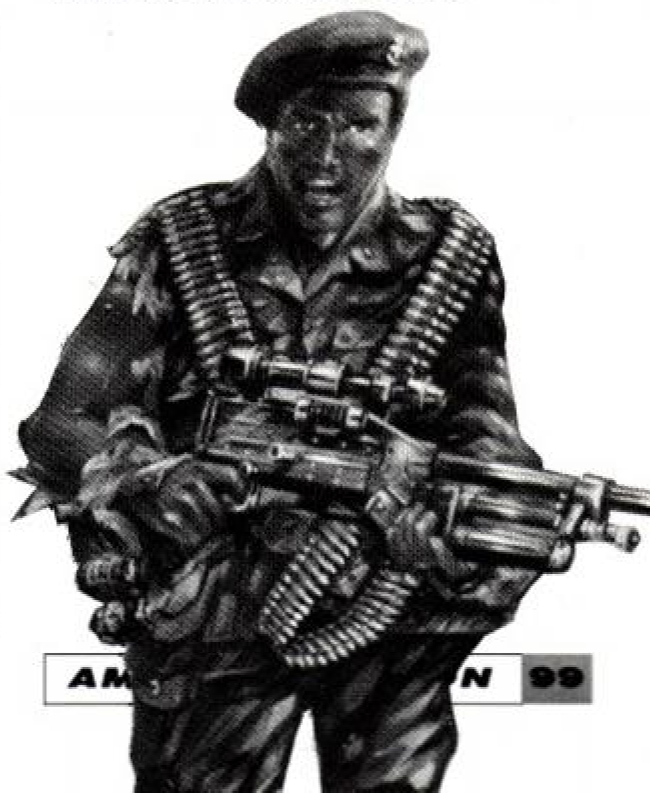
Bond's got a licence to cheat in **Licence to Kill**, courtesy of Mr P Howard from dowtown Mapperly. The effects vary between levels, but the result is the same – you win without having to try too hard! **Tape Method 1.**

```
{IpAs} 1 'LICENCE TO KILL
{FrAj} 2 '
{KlAp} 3 'TAPE VERSION
{NoAs} 4 'lifted from MIKE WONGS
{KpAr} 5 'disc cheat in AA 50
{NmAq} 6 '(I'm not proud)
{FwAi} 7 '
{PrAr} 10 DATA 21,FA,AC,36,C3,23
{GtAt} 20 DATA 36,20,23,36,BE,C3
{GiAt} 30 DATA 00,AC,21,7F,41,36
{HtAv} 40 DATA 8F,21,CC,41,36,B3
{EqAt} 50 DATA 21,2C,42,36,F9,C3
{BtAs} 60 DATA 05,40,C4,14,AC,3E
{PlAt} 70 DATA A7,32,E5,E6,AF,32
{ErAt} 80 DATA F4,E4,32,EE,E7,32
{LpAu} 90 DATA F0,EB,32,7E,DD,32
{NsAt} 100 DATA 02,DA,32,44,DF,32
{AmAs} 110 DATA 7D,E4,FB,C9
{FqAq} 120 y=0:MEMORY &3000
{IuAs} 130 FOR x=&BE00 TO &BE3F
{ClAu} 140 READ a$:a=VAL("&"+a$)
{OqAs} 150 POKE x,a:y=y+a:NEXT
{EvAt} 160 IF y<>&1EBC THEN 190
{MoAm} 170 LOAD""
{DmAp} 180 CALL &BE0E
{DnAr} 190 PRINT"data error!"
```

SAS COMBAT Simulator

The boys in the balaclavas get a boost from **Andrew Price**. The *SAS Combat Simulator* heroes are now immortal and have plenty of grenades to throw too. **Tape Method 1**

```
{MpAu} 1 ' SAS Combat Simulator pokes
{JsAq} 2 ' by Andrew Price
{BxAq} 3 ' Amstrad Action
{NpAs} 10 DATA 2A,38,BD,E5,AC
{GmAr} 20 DATA E1,22,33,BE,AD
{ArAt} 30 DATA 21,37,BD,3E,C3
{JjAt} 40 DATA 77,23,3E,23,77
{CoAu} 50 DATA 3E,BE,23,77,21
{FoAq} 60 DATA 40,00,E3,11,00
{GuAr} 70 DATA BB,00,C3,4A,3A
{IvAt} 80 DATA 3E,FF,32,86,32
{ApAs} 90 DATA 32,8B,32,AF,32
{CwAp} 100 DATA AA,49,EE,38,AF
{DkAq} 110 DATA cF,41,50
{CwAs} 120 MEMORY &3A00:LOAD""
{LlAr} 130 FOR ad=&BE00 TO &BE34
{ClAu} 140 READ a$:a=VAL("&"+a$)
{ErAt} 150 POKE ad,a:c=c+a:NEXT
{MvAu} 160 IF c<>&15E5 THEN 180
```



TAPE METHODS

Puzzled by poking? Baffled by binary? It doesn't matter, because entering pokes is easy. There are two basic methods for tape-based games, which are:

● METHOD 1: Rewind the tape to the beginning, type in the poke listing and then type RUN and press the Enter key (Don't use the CTRL or Control key, or the poke won't work). Press the Play key on the cassette deck, then any key on the main keyboard – the Spacebar does nicely. The tape should then play through as normal.

● METHOD 2: Skip the first bit of the game program. To do this, rewind the game tape to the beginning, type in the listing then type CAT and press Enter. Start the tape by pressing Play and then any key. Soon you'll see the message "Found (game name etc) Block 1". If the *Cheat Mode* instructions just tell you to skip the first block, stop the tape here. Indeed, if the instructions tell you to skip things, stop the tape when the "Found" message comes up for the last thing you're trying to skip. Once you've stopped the tape, press Esc, type RUN and press Enter. Now press Play on the tape deck and any key to start the tape.

WAR MACHINE

```
{EvAp} 170 CALL &BE00
{CrAu} 180 PRINT"Error!!":STOP
```

Take that acid bath with confidence, as **Uncle Phil Howard** has given Players' *War Machine* infinite lives. **Tape Method 1**

```
{KlAp} 1 ' WAR MACHINE.
{FrAj} 2 '
{AiAs} 3 ' INFINITE LIVES.
{FtAj} 4 '
{FnAt} 10 DATA 21,09,BE,22,BB,03
{KlAu} 20 DATA C3,2B,03,3E,A7,32
{MxAt} 30 DATA 9A,19,32,B3,36,c3
{KwAn} 40 DATA 40,00
{HpAs} 50 OPENOUT "W":MEMORY &320
{DuAr} 60 FOR x=&BE00 TO &BE13
{NjAt} 70 READ a$:a=VAL("&"+a$)
{DnAt} 80 POKE x,a:y=y+a:NEXT
{BiAu} 90 IF y<>&6A1 THEN 110
{KqAr} 100 LOAD"":CALL &BE00
{EnAs} 110 PRINT"data error!"
```

OPERATION GUNSHIP

The Oliver Twins' skyborne shoot-out *Operation Gunship* has been overhauled by **Graham Smith of Street**. Infinite ammo of every kind has been loaded on board and is ready for the off. Type it in, dust off, and start shootin'. **Tape Method 1**.

```
{MkAt} 1 ' Operation Gunship -tape-
{HvAq} 2 ' By Graham Smith
{DuBq} 3 ' Infinite bullets,bombs,fuel
and armour
{JsAm} 4 ' Method 1
{FuAj} 5 '
{FoAw} 10 DATA 2a,38,bd,22,31,be,21
{GlAt} 20 DATA 37,bd,36,c3,23,36,20
{PqAu} 30 DATA 23,36,be,21,40,00,e3
{PiAu} 40 DATA 11,00,bb,3e,4a,32,22
{JqAt} 50 DATA 3b,c3,e9,3a,af,32,5b
{CuAt} 60 DATA 85,32,9b,8e,32,53,8d
{KiAu} 70 DATA 32,8e,85,32,91,85,cf
{ClAt} 80 FOR j=0 TO 48:READ a$
{GtAt} 90 x=VAL("&"+a$):y=y+x
{KpAt} 100 POKE j+48640,x:NEXT j
{JwAr} 110 IF y<>4709 GOTO 140
{JjAr} 120 MEMORY 14900:LOAD"
{AmAp} 130 CALL 48640
{DkAq} 140 PRINT"data error
```



BLACK BOX

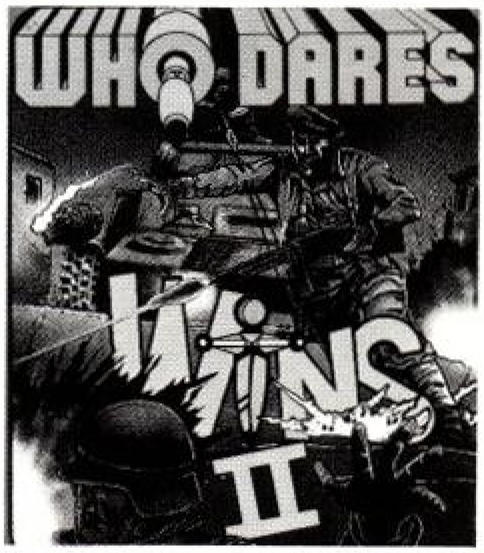
Many of you have one of the infamous black boxes that can be used to stop programs – the Multiface 2. Often the only thing that they're used for is transferring games from tape to disk, but they can also be used to hack games for infinite lives etc.

This occasional section is for owners of the Multiface 2 and similar devices so that they can poke games without typing in huge listings. Here's how you enter them.

- Plug the Multiface into the expansion slot at the back of your keyboard, making sure that the switch on the front is in the 'up' position
- Load the game that you want to poke in the usual way. Move the switch to the 'down' position once it's loaded
- Press the red button on the Multiface and a menu appears at the bottom of the screen. Press 'T' for Tool and then 'H' to change input to Hexadecimal.
- Press the Spacebar and type in the number under the Addr column. Next, type in the number under the Poke column
- Repeat this process until you have entered all the pokes listed for the game and then press Esc.
- Press 'R' to return to the game. It then runs with the pokes you've just entered

J Chan of Studley has completely ripped CRL's *Academy –Tau Ceti II* to pieces using his Multiface 2.
NB. All the entries marked with brackets (|) have to be used simultaneously.

<table>
<tr><th>Address</th><th>Poke</th><th>Effect</th></tr>
<tr><td>8CF3</td><td>00</td><td>Infinite Missiles</td></tr>
<tr><td>8D17</td><td>00</td><td>Infinite Ammunition</td></tr>
<tr><td>8D66</td><td>00</td><td>Infinite delay bombs</td></tr>
<tr><td>8D41</td><td>00</td><td>Infinite flares</td></tr>
<tr><td>8CC8</td><td>00|</td><td>No laser heat</td></tr>
<tr><td>8CC8</td><td>00|</td><td></td></tr>
<tr><td>A047</td><td>00|</td><td>Infinite fuel</td></tr>
<tr><td>A048</td><td>00|</td><td></td></tr>
<tr><td>8BEC</td><td>00|</td><td></td></tr>
<tr><td>A3C2</td><td>00|</td><td>Infinite shields</td></tr>
<tr><td>A3C3</td><td>00|</td><td></td></tr>
</table>



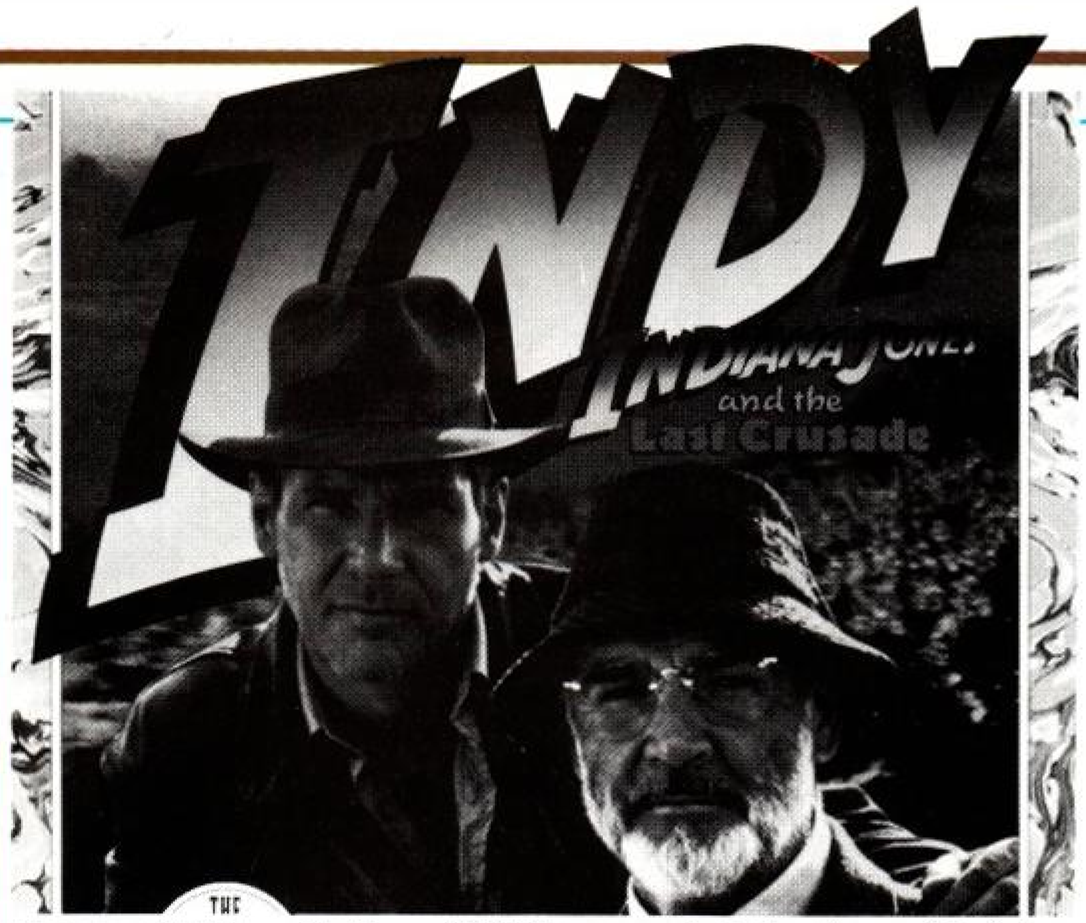
He who cheats survives, he *Who Dares Wins II*! Alligata's game gets the **Andrew Price** treatment, and runs on both the original and compilation version with infinite lives and grenades. Become a masterblaster with **Tape Method 1**.

```
{CiAq} 4 ' Amstrad Action
{IlAw} 5 ' 5 star games compilation
{JiAt} 10 ENV 1,1,12,1,1,0,5,12,-1,2
{ClBi} 20 ENV 2,1,13,1,1,0,15,13,-1,5
{JvAt} 30 ENV 3,1,13,1,12,-1,3
{LnAx} 40 ENT 3,5,40,1,5,20,1,10,25,1
{OpAv} 50 ENV 4,11,1,5,2,0,120,11,-1,14
{MwAu} 60 ENT -5,14,-10,1,1,120,1
{IxAu} 70 ENV 5,1,15,1,15,-1,12
{KjAq} 80 ENV 6,1,12,1,12,-1,9
{GpAp} 90 ENV 7,15,-1,2
{KiAx} 100 ENV 8,10,1,1,20,0,1,10,-1,2
{DqAp} 110 ENT -8,1,1,1
{OmAt} 120 ENV 9,1,15,1,15,-1,4
{BwAv} 130 ENT -9,9,5,3,1,-45,3
{BuAu} 140 LOAD"!loader",&C7D0
{MlAr} 150 FOR ad=&BE30 TO &BE50
{OrAv} 160 READ a$:POKE ad,VAL("&"+a$)
{PmAq} 170 NEXT:CALL &BE30
{CrAr} 180 DATA 21,EA,C7,3E
{GjAs} 190 DATA 3D,77,23,3E
{DxAt} 200 DATA BE,77,CD,D0
{IrAr} 210 DATA C7,AF,32,C1
{HjAs} 220 DATA 60,32,1A,63
{BlAr} 230 DATA 21,EA,C7,3E
{DqAq} 240 DATA 10,77,3E,A0
{LpAq} 250 DATA 23,77,C3,E9
{LvAm} 260 DATA C7
```

RENEGADE III

To skip to the next level of Ocean's *Renegade III* simply hold down Q,U,I, and T at any time. This also gives you inifinite lives for that level, but be careful – you've still got to watch the clock!





At last cru–*aid*!. Fed up with dying on US Gold's summer epic, *Indiana Jones and the Last Crusade*? Help is at hand because a number of crusaders have discovered a built–in cheat. At any point in the game simply hold down the keys T, O, and D (*Temple of Doom*!) then press SHIFT and 2 together. This will advance you through the game to the next 'restart point'. Used repeatedly this enables you to skip whole levels if you wish.

NO MORE ERRORS!

Puzzled by the funny characters at the start of each line of this month's pokes? Worry no more – ex tech-ed Pat MacDonald created *Typewriter*, a nifty utility subsequently refined by Adam Waring, specifically to help with the entry of programs from *Type-ins* and *Cheat Mode*.

Typewriter intercepts the CPC whenever a carriage return is entered and calculates a checksum based on the contents of the line that you just typed. The checksum is printed on screen and you must compare it with the value printed in the magazine. If both are the same then the line is correct – if not check the typed in line and alter it as necessary. Your type-ins need never be wrong again!

Simply RUN *Typewriter*, then start entering a type-in. Each time you enter a line, a checksum will appear on the screen for you to compare with the one printed.

And where do you get hold of *Typewriter*? Well, if you haven't already got it typed in from the *Type-ins* section in a past *AA*, you can use the copy provided on this month's Covertape.

Couldn't be easier!

ELITE CLUB

Elite Roster

●Archangel Starblaze
Rating: Elite
Alias: Dermot Friel
Galway Rd, Roscommon Town, Ireland.
"What are the third and fourth missions?".

●Commander Howse
Rating: Dangerous
Alias: Tony Howse
Heswall, Wirral.
051 342 4195

●Commander Winton 1
Rating: Harmless
Alias: Edward Winton
Kingscote Farmhouse, Turners Hill Rd, East Grinstead, RH19 4JZ.
"Need help docking!"

●Commander A Hilter
Rating: Unknown
Alias: J Edge Staveleigh
1 Offerton Rd, Hazel Grove, Stockport, SK7 4NJ.
"Please inform me of an Elite *poke for tape!"*

●Commander Wilson
Rating: Competant
Alias: MR Wilson
32 Grass Royal, Yeovil, Somerset, BA21 4JW.

Funtime

A fun tip for all Commanders who pilot disk-based ships; it's not so much a poke as deliberate sabotage, but the results are – well – *weird*!

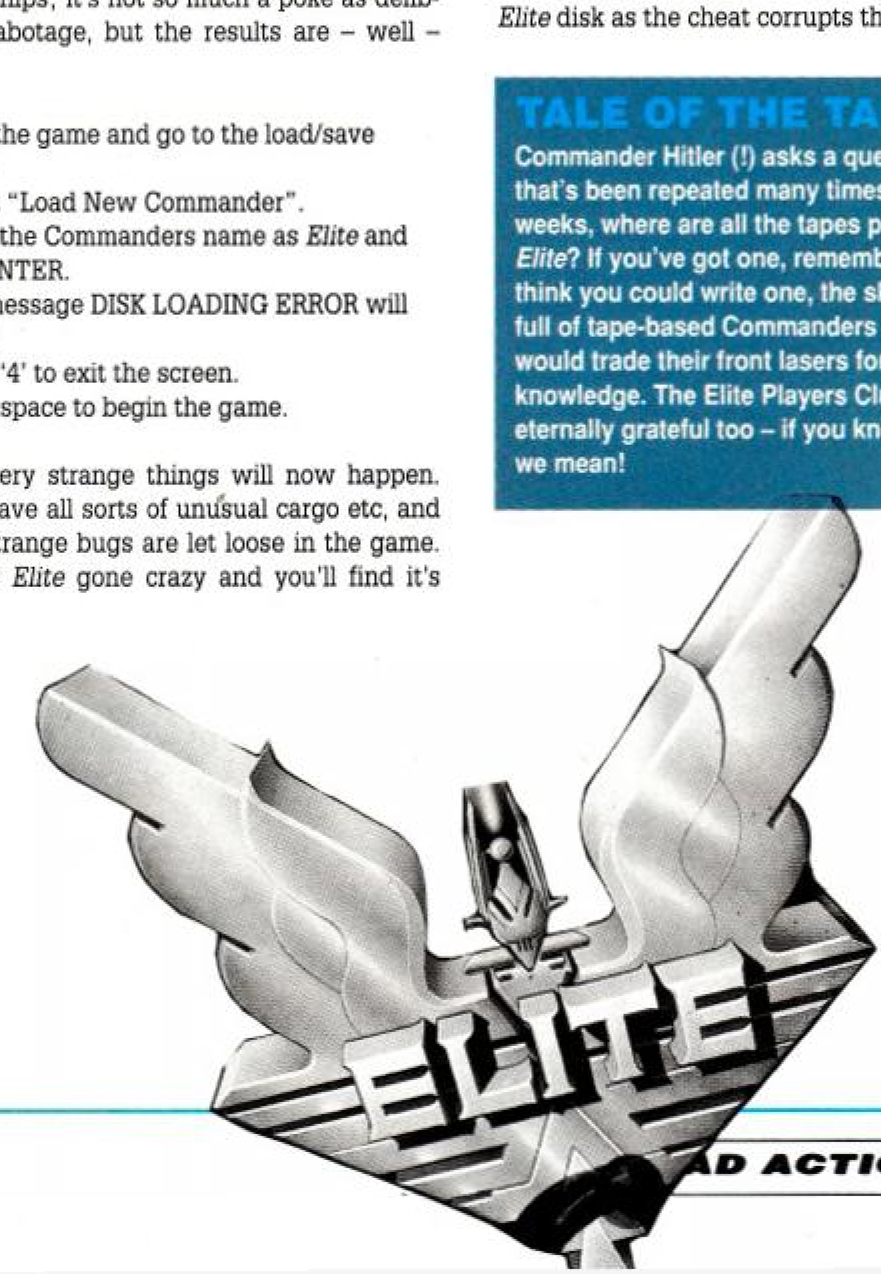
1 Start the game and go to the load/save screen.
2 Select "Load New Commander".
3 Input the Commanders name as *Elite* and press ENTER.
4 The message DISK LOADING ERROR will appear.
5 Press '4' to exit the screen.
6 Press space to begin the game.

Some very strange things will now happen. You'll have all sorts of unusual cargo etc, and some strange bugs are let loose in the game. Explore *Elite* gone crazy and you'll find it's even more fun than usual, if a little less predictable.

IMPORTANT: Never save these games to the *Elite* disk as the cheat corrupts them.

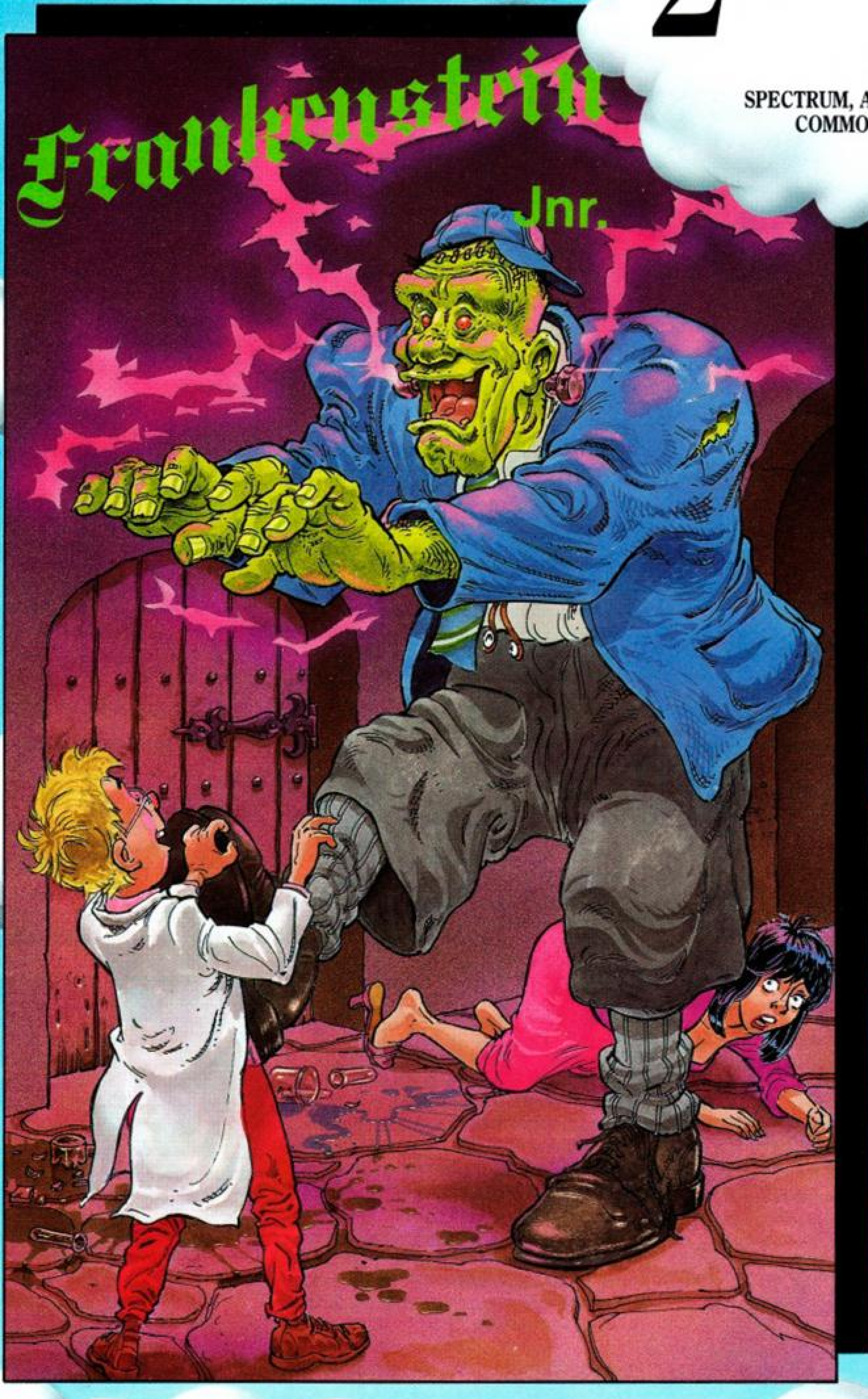
TALE OF THE TAPE

Commander Hitler (!) asks a question that's been repeated many times in recent weeks, where are all the tapes pokes for *Elite*? If you've got one, remember one or think you could write one, the skies are full of tape-based Commanders who would trade their front lasers for the knowledge. The Elite Players Club will be eternally grateful too – if you know what we mean!



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CARTOON TIME

CodeMasters, PO Box 6, Southam, Warwickshire CV33 0SH

Wot a lot they got!



The winners of the *Amstrad Action Fourth Birthday Competition* have been picked! The response was absolutely massive, with our overworked postman groaning piteously with every fresh sackful he had to drag up the stairs. In fact, there were so many entries that when it came to choose the winners we had to hire:

- 1 industrial skip
- 1 earthmover to shovel all the entries in
- 15 Liverpudlian builders with pitchforks to 'randomise' the entries
- 1 helicopter to lower the ed inside
- 1 Superdeluxe, fur-lined velveteen blindfold
- 2 gross pork pies for support team*
- 5 cases of Chateau Collapso to celebrate*
- 6 weeks in Ibiza for editorial recuperation*

*later vetoed by publisher

OK, so we exaggerated. Nevertheless, the Fourth Birthday Compo attracted more entries than any *AA* competition ever before – enough to fill to the brim an extremely large cardboard box which completely obscured Trenton's desk (and which we're keeping on for the time being).

We picked the winner by separating entries into piles of 100 and then, using a special randomising routine developed by Adam (send small piece of paper and cheque for £16.99 to Waring Enterprises plc...), winners were picked first by selecting a pile and then one of the 100 entries in it. So if you didn't win, don't blame us, blame *Locomotive BASIC*!

The runners-up

First of all, we have eight runners-up (remember, two prizes are being held back for overseas entrants). Just to reçap, the runners-up prizes consisted of (takes deep breath)...

A Magnum lightgun, Database's *Fun School II*, Electronic Arts' *Arctic Fox*, Hewson's *Cybernoid*, *Cybernoid II*, *Stormlord* and *Exolon*, Incentive's *Total Eclipse* and *Sphinx Jinx*, Level 9's *Lancelot* and *Time and Magik Trilogy*, Virgin's *Silkworm*, Activision's *Timescanner*, Ocean's *Renegade*, *Renegade II* and *Renegade III*, Rack-It/Hewson's *Anarchy*, Kixx's *Gauntlet II*, Activision's *Real Ghostbusters*, Hewson's *Zynaps* and *Impossaball*, Electronic Arts' *Bards Tale*, a year's subscription to *AA*, a binder and an *AA* T-shirt...! (Grabs oxygen mask.)

So, without further ado, Our runners-up so far are as follows:

Conrad Burgess, Ipswich
Sammy Buntin, Birmingham
Michael Chung, Fife
Mark Griffiths, Gwent
Vincent Watters, Essex
Richard Erwin, Co. Antrim
Aaron Montgomery, Co. Antrim
James Waddell, London

Don't despair!

If your name isn't on our list of winners, there's always next time. Speaking of which, have you turned to page 34 yet and checked out our fabulous CD player competition?

No? Then what are you waiting for!

THE THINGS YOU SAY...

You may remember Part Three of the competition got you to complete the following sentence: "I would like to win one of the fabulous collections of prizes in the AA Fourth Birthday Competition because..."

Well, here are just a few of your answers:

"...because I wish to prove to an Amiga owner that CPCs are better... besides, I'm broke" **– Richard Salter, Liphook**

"...because I need a binder to put my AAs in" **– Kelvin Lear, Leicester**

"...because I'm a greedy little pig..." **– James Neill, Wakefield**

"...because then I could produce the best Teenage Mutant Ninja Turtles fanzine ever, then I could retire and infest my office with termites" **– J M Seaton, Edinburgh**

We're sorry we asked...

AND THE WINNER IS...

OK, here we go. The winner of the *AA Fourth Birthday Competion* is... (rustling of silver envelope)

N. D. Rijke, Highclere, Berks!

Congratulations! And in case anyone out there needs reminding, here's a list of all those fabulous First Prize goodies:

- LC-10 Star colour printer
- Siren 800K 3.5" second disk drive
- Amstrad (Virgin/Mastertronic) Magnum lightgun
- *Qualitas Plus* Version 2 (Seven Stars)
- *Mini Office II* (Database)
- *Stop Press* (Database)
- *Stop Press Utilities* (Database)
- *MAX* (Database)
- *Fun School II* (Database)
- The Arnor Protext collection –
  Protext on ROM
  Promerge on ROM
  Prospell on ROM
- *Utopia* on ROM
- Thompson Computers Mailmerge tutorial (disk)
- *MAXAM* version 1.5 on ROM
- ...and of course a ROMBO ROM box to hold all these wonderful ROM goodies!
- The RAM Music Machine (Datel)
- Soundblaster, including Harvard stereo speakers and Boxer stereo headphone equipment
- *Arctic Fox* (Electronic Arts)
- *Cybernoid* (Hewson)
- *Cybernoid II* (Hewson)
- *Stormlord* (Hewson)
- *Exolon* (Hewson)
- *Dark Side* (Incentive)
- *Driller* (Incentive)
- *Total Eclipse* (Incentive)
- *Total Eclipse II, Sphinx Jinx* (Incentive)
- *Lancelot* (Level 9)
- *Time and Magik Trilogy* (Level 9)
- *Silkworm* (Virgin)
- *Time Scanner* (Activision)
- *Renegade* (Ocean)
- *Renegade II* (Ocean)
- *Renegade III* (Ocean)
- *Anarchy* (Rack-It/Hewson)
- *Gauntlet II* (Kixx)
- *Real Ghostbusters* (Activision)
- *Zynaps* (Hewson)
- *Impossaball* (Hewson)
- *Bards Tale* (Electronic Arts)

– Stunning or what?

Insider dealing

That cracking fellow PHIL HOWARD lifts the lid on loading this month in the eighth and last (oh no!) instalment of *Insider Dealing*. But is this *really* the end..?

I'm willing to bet that nearly everyone reading this, whether they own 464,664 or 6128, has in their time loaded and used tape-based software. I know it's slow, cumbersome and sometimes unreliable, plus it can be a real pain on multiloads, but its one redeeming grace is that it's always cheaper than the disk version – something close to the most ardent discologers heart.

Personally, I prefer tapes to disks. The protections may be more difficult (the awful US Gold loader is three times longer on tape, and I still can't find a way to get around S. Marsden + D. Cooke's unique system used on *Deflektor* and *Blood Brothers*), but there's something convenient about the sequential loading of a tape.

Mineral magnetism

It is a fact that, excluding ROM-based software, all programs for the CPC are mass-reproduced on the magnetic storage mediums of either tape cassette or disk. The ability to gain control over the system which transfers the program from store into the computer's memory means you can be involved at a time when data (in hacking terms) is at its most vulnerable.

There are a multitude of techniques used in data transfer. Basically however, they all shift the information one BIT at a time, as electrical representations of 0 and 1 (Binary). The information is then collected into BYTES (8 BITS) which are positioned one after another in the computer's memory.

You will find that knowledge of the cassette/disk system is one of the first essentials to succesful hacking.

Headers you win

The CPC has its own built-in system for loading and saving programs to tape and to disk. The TAPE system involves two ROM calls: CAS WRITE at &BC9E, which saves data onto tape, and CAS READ at &BCA1, which loads it back. These ROM calls are fairly easy to use, but cannot be accesed without a machine code program to "drive" them, as they require that you pass parameters on when they are called.

There are three of these parameters which specify what the routine should do : Start, Length and the Synchronisation Character of the file to be saved or loaded.

The Start is specified by the "HL" register pair, and can be anything from &0000 to &FFFF. The Length is also in this range and is specified by "DE". The Sync Character is one byte &00 to &FF contained in the "A" register, and is used to identify (or protect) the HEADERLESS FILE, as the results of this operation are called.

This method of saving or loading is not really possible from BASIC because there is no adequate way to specify the parameters. *Locomotive BASIC* employs a system commonly called a Block Loader which saves out, and loads back, data in blocks of 2 kilobytes (2048 bytes), each of which has its own Header. By doing this, the process is made rather more automatic and represents considerably less hassle for the user.

```
1 'HEADER READER
2 '
3 'FOR TAPE AND DISC
4 '
10 DATA 11,00,91,21,21,90
20 DATA 06,0c,cd,77,bc,32
30 DATA 2d,90,ed,53,2e,90
40 DATA ed,43,30,90,11,1a
50 DATA 00,19,22,32,90,cd
60 DATA 7a,bc,c9
70 MEMORY &8FFF:y=0
80 FOR x=&9000 TO &9020
90 READ a$:a=VAL("&"+a$)
100 POKE x,a:y=y+a:NEXT
110 IF y<>&C57 THEN PRINT"data error!":END
120 INPUT"FILENAME ";z$
130 POKE &9007,LEN(z$)
140 PRINT:z$=UPPER$(z$)
150 FOR x=&9021 TO &9021+LEN(z$)-1
160 POKE x,ASC(MID$((z$),b+1,1))
170 b=b+1:NEXT:CALL &9000
180 PRINT:a=PEEK(&902D)
190 PRINT z$;": ";TAB(18);
200 IF a=0 THEN PRINT"Basic
210 IF a=1 THEN PRINT"Protected Basic
220 IF a=2 THEN PRINT"Binary
230 IF a=3 THEN PRINT"Protected Binary
240 IF a>3 THEN PRINT"Ascii
250 PRINT"Start:";TAB(18);
260 b=PEEK(&902E):c=PEEK(&902F)
270 PRINT"&";HEX$(c,2);HEX$(b,2)
280 d=PEEK(&9030):e=PEEK(&9031)
290 PRINT"Length:";TAB(18):
300 PRINT"&";HEX$(e,2);HEX$(d,2)
310 IF a<2 OR a>3 THEN END
320 f=PEEK(&9033)*256+PEEK(&9032)
330 PRINT"Execution:";TAB(18);
340 PRINT"&";HEX$(PEEK(f+1),2);HEX$(PEEK(f),2)
```

● HEADREAD – BASIC listing. All the information you are likely to need to manipulate block-saved programs (tape or disK).

The term HEADER is given to a short block of data that the computer reads in first. It contains all the information needed to enable the correct positioning and subsequent execution of a program in the computer's memory.

If you listen to a program block loading from tape you will hear a tone (the Leader) followed by a short, higher-pitched burst of data (the Header), back to the tone, then a longer burst of data (the program file), a sequence that is repeated for each 2K block. The bursts of data are themselves two individual headerless files, which the computer is programmed to read in sequence. Header and data files are given two different synchronisation characters, in order to tell them apart – Headers use &2C whilst data uses &16.

The header consists of 64 bytes of information:

00-15:	FILENAME (ASCII Characters)
16:	BLOCK NUMBER (No. since start of file)
17:	LAST BLOCK (&FF if it is, 0 if not)
18:	FILE TYPE (See below)
19+20:	DATA LENGTH (Of this block – up to &800 or 2k)
21+22:	DATA LOCATION (Start address of this block)
23:	FIRST BLOCK (&FF if it is, 0 if not)
24+25:	LENGTH (Length of entire file)
26+27:	ENTRY POINT (Execution – if allocated)
28-64:	UNALLOCATED

Byte no. 18, the file type, tells the computer which of the five different styles of data to expect (when using CAT the computer adds 36 to the number to make the identification character printable, i.e. 0="$", 1="%", 2="&", etc.)

0:	BASIC
1:	PROTECTED BASIC
2:	BINARY
3:	PROTECTED BINARY
4:	ASCII

As you can probably see, there is precious little difference between protected and un-protected files (the computer checks byte 18 of the first header). Generally, tackling and overcoming this built-in protection system is the first thing that hackers discover how to do. Protected binary, by the way, isn't protected at all, although some monitors will not load it.

Disk programs are very similar – they also

need a block of information indicating where the file is to lie in the memory. The code is then picked up from various locations on the disk. With the disk system, however, it is possible to use the CPM environment, which requires no header. Instead, it loads (boots) a small file direct from the disk into the computer's memory. This is achieved by executing a |CPM instruction. It automatically takes track 0 sector 41 from the disk and runs it at &0100. The ROM routine which performs this task can be accessed using the program BOOTSECT.

The majority of comercial tape software use a speedlock loading system of one type or another, which, as its name implies, consists of a faster than normal loader buried deep within the protection of the first block-loaded file. They are secure because the data can only be read into the machine using their own loader. It is possible to emulate the loader and use it to load the code in isolation, but by far the best method is to capture the system after it has done its work. This is how copiers/cheats function.

```
1 ' BOOTSECT
2 '
3 ' This program emulates
4 ' a |CPM instruction. It
5 ' loads the boot sector
6 ' to &9100 for exam.
7 '
10 MEMORY &9000
20 DATA 21,00,91,0E,41,16
30 DATA 00,1E,00,DF,0D,BF
40 DATA C9,3C,C0,07,00
50 FOR x=&BF00 TO &BF10
60 READ a$:POKE x,VAL("&"+a$)
70 NEXT
80 INPUT"INSERT DISC + PRESS ENTER",a
90 CALL &BF00
100 PRINT"BOOT SECTOR AT &9100
```

● BOOTSECT – BASIC listing. To read information direct from disk: load registers "HL" with destination address, "C" with SECTOR, "D" with TRACK, and "E" with DRIVE NO.

Comparative tricksters

Recently (within the last few months), I have recieved a couple of really good ideas on how to cheat – ideas that I hadn't previously considered.

The first comes from Charles Osborne of Bradford on Avon, who suggests that because some games have a Save option built in, it is possible to modify the proceedings by fiddling with the saved file. He cites *Koronis Rift* as his trial game. By saving the position just prior to loosing energy, then again just after, and comparing the files, any differences can be pinpointed to the reduction process. It is then possible to create a new file, with vastly increased energy reserves.

On disk the modifications can be made via a disk editor, but on tape the file must be rewritten completely. This can be implemented at various "sticking points" during the game, and put back after if required.

Thanks Charles, I have had a go at the saved file on *Kenny Dalglish Soccer Manager* myself and found that although it consists of three headerless files (sync. character &16, if you are interested) it is possible to give your team lots and lots of extra cash. It also may be a good idea for adventure fans to have a look at their saved positions.



● One of many games that can be "got at" via the saved position.

The second idea is a similar method for Multiface owners, and comes from Martin Armitstead of Kendal. He suggests that most games store variables (lives, energy, levels etc.) in an area of memory usually less than a couple of hundred bytes long that can be scanned fairly quickly using the Multiface window.

He says: "You look for instructions loading to, or from the same area of memory, e.g. ld A,(&4000), ld A,(&400A), ld(&4010),A. Make a note of where the memory area is. Reload and run the game, stop it with the Multiface and have a look through the memory area for a number that resembles the lives you have. Make a note of the address. Use "R" to return to the game. Now deliberately lose a life or whatever, then stop the game and have another look to see if the numbers have changed. If you get the right address, try poking it with a higher value and return to the game once more. Next time you loose a life, a higher or unprintable value will be displayed."

Martin goes on to say that most of the speedlock protection systems were themselves originally lifted from ZX Spectrum ROM routines by games programmers wishing to safeguard their work. Then when the Amstrad came along they were modified to work with the CPC's port instructions. Most interesting, Martin, thanks very much. Its nice to know who the real pirates are.

INTO THE FIRE(BIRD)

Do you remember when I was talking about In and Out instructions? The fact that the tape motor is controlled by bit 4 on the "C" channel of the PPI chip at port &F600? Well, not only can you switch the motor on and off, you can also detect its state by reading the information IN from the same port. Try:

OUT &F600,&10 (00010000 in binary):
Tape motor on.
PRINT BIN$(INP(&F600),8) :
Reads the chip
OUT &F600,&00 (00000000 in binary):
Tape motor off.
PRINT BIN$(INP(&F600),8) :
Reads the chip.

Meanwhile, down at &0038 in the memory is the machine's Interrupt Vector. This is the function that enables the CPC to work in real-time (when you press a button, something happens). The operating system loops round and round via the vector, endlessly checking on the keyboard, updating the screen etc. This loop is only halted when a machine code instruction &F3 (Disable Interrupts) is evoked.

You may wonder what on earth all this is leading to. Well, it is possible to capture the interrupt vector and re-route it through a program of your own (careful how you do it, though). You can then monitor happenings in real-time. Happenings like – for instance – whether the motor has been switched off at the end of a game loading. (Do you get the idea?)

This method can then be linked up to the BACKDUMP program in *AA* 48 if you have expanded memory, or your own save routine if not. It is a method used in principle on at least one of the major copying utilities. If you are in doubt how to do it, have a look at some of the recent cheat routines for Firebird games.

PENULTIMATUM

Now I've just about run out of publishable techniques, and was intending to make this the last one in the series. But due to incredible demand (well, no-one actually *said* they were sick to death of it!), I will attempt another couple of pages next month. Also, as a few people have asked about Gelepersoft's *Poke Easy Plus* program (and like me got little response from the firm in question) there will be some pointers for that. So now's your *last chance* to write and let me know what I've not explained well enough over the last eight months. Have a Happy Christmas.

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CANNAE 216 BC - the game is a battle between the Carthaginians led by Hanibal against the Romans. The battle took place in Southern Italy in August 216 BC. The Carthaginians had about 62,000 men while the Romans had about 80,000 men on their side. The options are one or two player with 50 units involved. The types of units are light infantry, heavy infantry, light cavalry and heavy cavalry each rated for strength, quality, morale, fatigue and moves. Each turn represents one hour. All of this is set on a scrolling map which is 25 x 27, the types of terrain are rivers, mountains, hills and towns. The aim of the game is to destroy the enemy. There is also the save game option and a detailed manual with the game.

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Crazy Cars	2.60
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Thunder Cats	1.75
Vectorball	2.60
Vixen	2.60

We cannot possibly list everything we stock here. So if it's not listed, it doesn't mean we haven't got it ! Note New releases sent on the day of release.

All our prices include P&P & VAT, in England, Scotland, Wales & N. Ireland. Eire & Europe add £1.20 per item. Rest of World add £3.00 per item. NR = New Release - phone for availability.

Please make cheques or postal orders payable to "MODE ONE"

POOLSWINNER II

THE ULTIMATE POOLS PREDICTION PROGRAM

- **MASSIVE DATABASE** Poolswinner is a sophisticated Pools prediction aid. It comes complete with the largest database available – 22000 matches over 10 years.
- **PREDICTS** Not just SCOREDRAWS, but AWAYS, HOMES and NO SCORES.
- **SUCCESSFUL** SELEC guarantee that Poolswinner performs significantly better than chance.
- **ADAPTABLE** Probabilities are given on every fixture – choose as many selections as you need for your bet. The precise prediction formula can be set by the user – you can develop and test your own unique method.
- **SIMPLE DATA ENTRY** All team names are in the program. Simply type in the reference numbers from the screen. Or use FIXGEN to produce fixture list automatically (see below).
- **LEAGUE AND NON-LEAGUE** All English and Scottish League teams are supported, and also the non-league sides often used on pools coupons.
- **PRINTER SUPPORT** Full hard copy printout of data if you have a printer.

Boxed, with detailed instruction booklet

PRICE £24.00 (all inclusive)

NOW AVAILABLE

FIXGEN 89/90 AT LAST: No more struggling for hours to get the fixture list into the computer. FIXGEN has been programmed with all English and Scottish League fixtures for 1989/90. Simply type in the date, and the full fixture list is generated in seconds. Fully compatible with Poolswinner. Yearly updates available.

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NOT JUST A TIPSTER PROGRAM, Coursewinner V3 can be used by experts and occasional punters alike. You can develop and test your own unique winning system by adjusting the analysis formula, or use the program in simple mode. Coursewinner V3 uses statistical analysis of major factors including past form, speed ratings, course statistics, prize money, weight, going, trainer and jockey form etc, etc. It outputs most likely winners, good long odds bets, forecasts, tricasts etc. The database includes vital course statistics for all British courses. You can update the database – never goes out of date. *FULL PRINTER SUPPORT.*

PRICE £24.00 (all inclusive) includes Flat AND National Hunt versions.

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ADVERTISERS INDEX

AA Buyers Guide

This is the place to find what software and hardware is available for your CPC. We list programs by category, and provide producer; phone number; price; issue in which the item was reviewed; and last but not least, a brief description of the program's features and, where appropriate, shortcomings.

But don't take our word for it: if you're in doubt read the original review before you splash out, and make sure by asking the person you're buying from that it meets your particular needs. Best of all is a try-out, if you can find a friend who has what you're thinking of buying.

WORD PROCESSING

Brunword

Brunning Software ☎ 0245 252854
£30.00 (6128) disk, £25 (464) disk ● *AA24*
Complete word processor package with spelling checker, 30,000-word dictionary and card filing programme. Spell checker and dictionary loaded with the main programme. 40, 80 and 128-column screen modes and fast screen response. Tutorial file makes learning the system easy.

Pendown

Logotron ☎ 0223 323656
£19.95 disk ● *AA18*
A complete tutorial in the theory and practice of word processing – it's great fun, too. Open system, owing much to expensive DTP packages.

Protext

Arnor ☎ 0733 68909
£19.95 tape, £26.95 disk, £39.95 ROM ● AA3
Lightning fast on all tasks involving screen. True merging from separate files and disks to the cursor position is easy, and *Protext* supports standard CPC RSX's like DISC, TAPE, CAT etc. ROM version is excellent. Bad points: maximum file space limited to machine memory – about 22K on disk, 38K for the ROM version. As used by *AA*, if that's any recommendation (don't answer that).

Tasword

Tasman Software ☎ 0532 4388301
464, 464D, 6128, £19.95 tape, £24.95 disk ● *AA1*
464 is the tape based version (the same as *Amsword*). 464D has enhancements for a disk drive. 6128 makes full use of a 6128's extra memory. The latter pair include mailmerge facility. Easy to get to know: comprehensive help screens. Screen operations are slow, but may be customised for greater speed.

Pyraword

Discovery ☎ 0742 753423
£14.95 tape, £17.95 disk ● *AA18*



Similar in use to Discovery's *Pyradev*. It loads a profile of inks, printer codes and character set. Word counting, changing disk drives etc – 'housekeeping' tasks – are handily located. Uses extra memory of 128K machines for spooling printed documents and storing text. True file merging is impossible, and control keys are odd. Margins cannot be set further apart than 80 columns, although placing a printer control character at the right hand side allows wider documents to be printed.

Wordstar

Micropro/Cumana ☎ 0483 571666
£49.95 disk (CPM) ● *AA1*
Files can be as big as the space available. A professional program, with huge manual and a layout like mission control. If you want a function, it is in there... somewhere. Not fast.

PRINTERS

Manufacturers' recommended retail prices are listed as guidelines, but heavy discounts are offered by retailers.

Amstrad DMP/2160

☎ 0279 454555
£149 including VAT ● *AA6*
Load through front: printer must be above paper; but loading continuous stationery is easy. Poor NLQ mode. £5 for ribbons. Low priced, rather than a bargain.

Amstrad DMP3160

☎ 0279 454555
£199 + VAT ● *AA29*
Similar to but faster than DMP2160. Accepts all IBM and Epson printing codes. NLQ is front loading system. Good buy.

Amstrad DMP4000

☎ 0279 454555
£349 + VAT ● *AA20*
A real text-cruncher. Wide carriage, and really flies across the paper, up to about 200 cps (in NLQ about 50 cps). Fonts available: standard 9 pin Pica, Elite, condensed etc. – but they are different, rather than just adjusted spacing for the same characters.

Amstrad LQ3500

☎ 0279 454555
£349 + VAT ● AA31
Cheapest 24-pin printer. Paper loaded from the rear – more time consuming. 30 cps in letter quality mode, and 62 cps in draft. Print quality excellent: plenty of different type-styles built in. Not ultra fast.

Citizen 120D

☎ 0800 282692
£199 + VAT ● *AA43*
Dimensions: 3.7 kgs, and 370mm x 90mm x 238mm. Draft quality is 'dotty,' and poor, but NLQ is sharp and simple. A quiet beast, with cable to the computer connected on the side. Manual includes a complete written breakdown of all the printer control commands, and their effects.

Epson LX800

☎ 01 902 8892
£279 + VAT ● AA29
Very fast for 9 pin. Control panel for style selection, and Epson compatible. Reverse winding sheets requires care, though.

Epson EX800

☎ 01 902 8892
£629 + VAT ● *AA29*
Upgradable in 101 ways – cut sheet feeds, serial ports, longer life ribbons. Quiet, with respectable printing speed. Sans Serif/Roman NLQ fonts incorporated. Control panel to select fonts – just the same font with different spacings.

Epson LQ500

☎ 01 902 8892
£399 + VAT ● *AA29*
Features galore and price to match. Handles both Sans Serif and Roman styles of NLQ, for instance. Colour-printing upgrade kit available. 24 pin printer, offering excellent quality printing. Control panel to select from many available fonts (ie. the same font at different widths).

Panasonic KXP3131U

☎ 0753 73181
£335.25 (discont.) ● *AA29*
Daisywheel therefore superb quality – but can't print bit graphics (no trendy screen dumps), and if you want different fonts, you have to plug in a different Diablo-compatible one. Not quiet.

Mannesmann Tally MT81

☎ 0734 788711
£149 + VAT ● *AA43*
Dimensions: 70mm x 100mm x 265mm; weight, 4.5 kgs. Prints Epson and IBM graphics. Draft mode print quality is good: square printhead pins put ink onto greater areas. The printed output is more ornate than the Citizen. Manual is superb, but falls down in failing to explain control codes: for that you have to buy the applications manual. Certainly a very good buy.

Panasonic KXP1081

☎ 0753 73181
£219 +VAT ● AA29
Similar to DMP2000/2160: chunky, 9 pins, 10 inch carriage and compatible with Epson codes. Thorough A4 manual, good NLQ mode – better than DMP – and condensed, draft and NLQ modes.

Star LC-10

☎ 01 840 1800
£229/299 + VAT ● AA32
First price is for standard dot matrix printer. Fonts selected by button, rather than typing in fiddly control code. Second

price is for relatively inexpensive colour model. The machine uses multi-colour ribbon to produce different mixes, though there are currently no commercial programs to take advantage of this capability *(but see the Colourdump review in AA46, page 24).*

Star LC 24-10

☎ 01 840 1800
£399 + VAT ● AA47
A low-cost 24 pin, 10 inch, 80 column Letter Quality printer. 8 resident fonts, all operable from the front control panel and 3 print variations. See the review in this issue, page 22.



■ INTEGRATED PACKAGES

Info-Script

Brunning ☎ 0245 252854
£50 disk ● 128K only ● *AA35*
Billed as the "complete database with word-processor and spelling checker," it's best with 256K. Well set up, easy to use and allows for changes in layout and content. recently 'supercharged'.

Protext Filer/Office

Arnor ☎ 0733 68909
£24.95/£34.95 disk ● *AA34*
Database that works comfortably with *Protext*, has powerful sorting options and comprehensive invoice printer. Can be slow, but good value.

Mini Office II

Database ☎ 0625 878888
£14.95 tape, £19.95 disk ● AA6
Astonishingly cheap word processor, database, spreadsheet, graphics, comms and label printer all-in-one, it's continued to sell, and sell, and sell... Not full specification, but at this price who's complaining?



■ EDUCATIONAL PROGRAMS

Amstrad Selection

Fernleaf Education ☎ 0474 359037
£25.95 disk/tape ● *AA32*
For age range 7 to 12+: Eightprograms – including*Fletcher's Castle, Market Stall, The Perfume Hunter, The Raiders, Ferry Captain, Treasure,* and *Thorn Sea.*

Arc Master Pack Plus

Arc Education ☎ 0472 812226
£48 disk● *AA32*
A massive pack of 90 programs: Junior; Primary; a parent/child adventure; DR Logo and word games. Each set available at £10 tape and £12.50 disk. Well presented with good graphics, reasonable musical ditties and plenty of options.

Kosmos

Kosmos ☎ 05255 3942
£9.95 tape, £13.95 disk● *AA32*
Answer Back Junior Quiz lets you either answer the question; make a choice from a number of options; or say whether something is true or false. There's also *Factfile 500*, sets of additional questions for the program: arithmetic, spelling, sport and natural history.

The other range from Kosmos: vocabulary tutors in French, Spanish, German and Italian.

Play School

School Software ☎ 010353 6149477
£9.95 tape, £14.95 disk● *AA32*
Six different utilities including Counting, Find It, Paintbox, Shapes, Match-up and How Much? Paintbox is the best. Other programs in the range are also worth a look, including *Biology, Chemistry* and *Physics* for older children.

Funschool 2

Database Software ☎ 0625 878888
£9.95 tape, £14.95 disk● AA43
So rare is it that educational software gets into the charts that it made the news pages of the weekly computer press. Actually there are three great packages here: under sixes, six to eights and over eights.



Wordhang

Bourne Education ☎ 0794 523301
£9.95 tape; £14.95 disk ● *AA32*
One of Bourne's range of ten programs. Others include *Happy Letters, Numbers* and *Writing* (all Infant); *Timeman One/Two* and *Map Rally* (all Junior); and the excellent *Chemistry* and *Physics Revision* (Senior).

■ BUSINESS/ ACCOUNTS

● *See also* Pendown *in* 'Word Processing'

Protext Office

Arnor ☎ 0733 68909
£34.95 ● CPM+, 6128 only ● *AA34*
Requires *Protext* and *Promerge* to run. Information inputted using *Protext*. Mail merge templates included, and very well implemented invoice printing feature. A genuinely useful business system.

SD Microsystems range

SD Microsystems ☎ 0462 675106
General Ledger ● £19.95 ● *AA32*
Sales Invoicer Pack ● £19.95 ● *AA26*
Small Traders Pack ● £24.95 ● *AA26*
Stock Accounting System ● £39.95 ● 6128 only ● *AA32*
SD Microsystems have a range of quality small business systems. Consult original reviews for in-depth explanations of what each does and how it differs from the others – or better still, ring them and ask.

■ DATABASES

AtLast Plus

Rational Solutions ☎ 056681 511
£39.95 ● CPM+,128k machines only ● *AA30*
Powerful: developed into user's requirements. Data capacity restricted only by disk size, and splitting fields into smaller elements possible. Printed output impressive. Beefy processing.

Masterfile III

Campbell Systems ☎ 0378 77762
£39.95 CPM+ ● *AA30*
With parent/child records – enabling tying together of records, saving space and time. Screen layouts and reports menu selected; not for faint hearts, but good results.

Random Access Database

Minerva Systems ☎ 0392 437756
£29.95 disk ● *AA6*
40 or 80 column screen. Good mathematical and string operations . Random disk accessing gives speed and power.
● *See also* Info-Script *in* '4. Integrated Packages'

■ SPREADSHEETS

Mastercalc 128

Campbell Systems ☎ 0378 77762
£33 disk ● 128K machines ● *AA4*
Can show two parts of spreadsheet at once. Includes notepad and calculator. Easy to use, but the mathematical formulae can only consist of the four basic arithmetic options. Slows down as more data is entered.

Matrix

Audiogenic Software ☎ 01 861 1166
£34.95 disk ● *AA18*
Uses disk to store data – so good capacity on the plus side, but poor speed on the minus side. Graphic options excellent. Onscreen prompts rare, making it hard at first. Calculating power good.

Supercalc II

Amsoft/Sorcim ☎ 0277 230222
£49.95 CPM+ ● *AA4*
First class documentation. Calculations can be determinative – performed on whether or not cell's contents match given value. Excellent help prompts and arithmetic functions.

Cracker

Newstar Software ☎ 0277 229509
£49.00 disk CPM+ ● *AA9*
Spreadsheets must be created from scratch. Documentation good, command sequences soon learned. Mathematical functions well done, with random numbers catered for. Files limited to 17K – and formulae programming not well implemented.



SOUND

Amdrum

Cheetah ☎ 0222 555525
£34.95 ● *AA13*
Digital drum machine. Editor comprehensive. Not Midi compatible: to hear output you plug it into amplifier.

DHCP Midi Interface

DHCP ☎ 0440 61207
£69.95 interface, £34.95+ disk s'ware ● *AA33*
DHCP produce Midi software for various Midi interfaces for CPC, which are incompatible with each other.

Miditrack Performer

EMR ☎ 0702 335747
£49.95 interface, £79.90/£89.90 tape/disk s'ware● *AA13*
Midi interface plus sequencing software to drive Midi equipped instruments. Records each instrument then plays them all at once. Onscreen layout similar to multi-track recorder. Excellent.

Sound Blaster

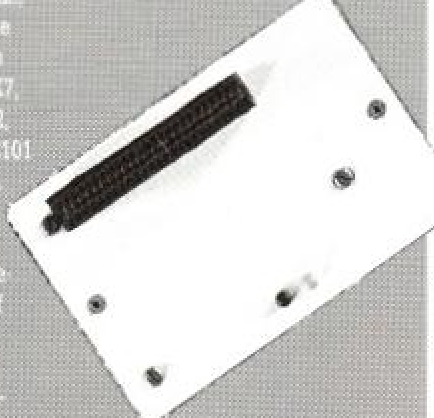
Siren Software ☎ 061 228 1831
£34.99 ● *AA23*
Amplifier and pair of loudspeakers that plug into CPC for maximum 2 watts sound effects.

Speech Synthesizer

DK'tronics (Datel) ☎ 0782 744707
£29.99 ROM
Add-on producing speech by RSX's: loudspeakers supplied. Cannot include speech in program for someone else's CPC, though. Even so, excellent speech quality and value.

Midi Interface

Silicon Systems ☎ 061 848 8959
£59.95 interface, £59.95 software ● *AA26*
Useless alone, but software you can use with it – DX7, FB01, MT32, D50 and CZ101 – is diverse. Software prices vary, and lack presentation of EMR sequencer. High performance.



Ram Music Machine

RAM Electronics (Datel) ☎ 0782 744707
£49.99 tape, £59.99 disk ● *AA17*
All-in-one music package: Midi interface, sound sampler and music editor. Sampler can handle one sample of just over a second. Midi controller software and music editor comprehensive. No through port, though, so 464 users must use tape version. And you can't edit live played Midi compositions.



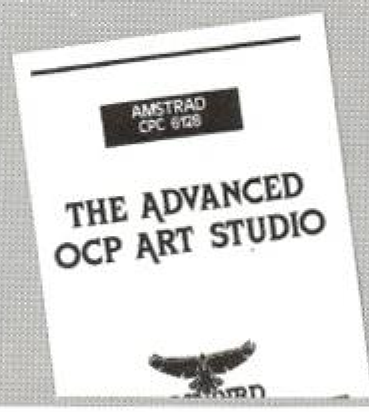
VISION

AMX Art

Database ☎ 0625 878888
£69.95 disk (includes mouse) ● *AA7*
User friendly, if little unsophisticated compared to *Advanced Art Studio*, but mouse helps greatly. Colour, spraycans, textures, circles and host of other features.

Advanced Art Studio

EEC ☎ 0753 888866
£24.95 disk ● *AA21*
Recently revitalised, this is *the* user-friendly, best and most powerful art package: works in all three modes. Can cycle through inks, and cut and paste different areas, transformations and reflections. Fill routines in coloured patterns. Available as a standard version for £15.96.



Cherry Paint

Siren Software ☎ 061 228 1831
£9.99 disk ● *AA20*
WIMP controlled – ie mouse moves pointer to various icons to pull-down menus. B/W mode 2 only, but fun. Curves are difficult, but this is a bargain.

DART Scanner

Dart Electronics ☎ 0502 513707
£79.95 ● *AA22*
Attach reading device to your DMP2000, 3000 or 3160. Feed in picture to printer: device reads in picture as B/W image. Quality onscreen isn't amazing, but it works and it's fun.

The Informer

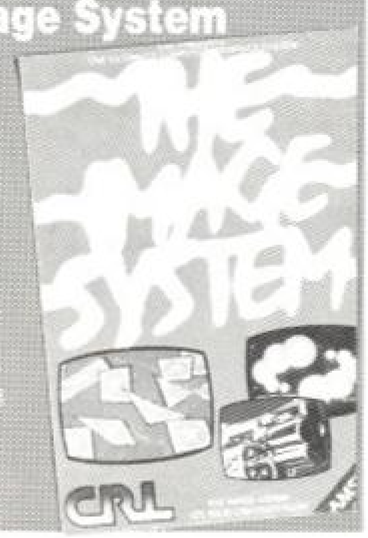
Treasure Island Software ☎ 0492 593549
£29 disk ● *AA33*
For creating animated displays, suitable for classroom and shop window: takes text, graphics and animated displays and produces slide show. Works best but not only with *Parrotry Plus* (see below).

Parrotry Plus

Treasure Island Software ☎ 0492 593549
£19.95 disk ● *AA30*
Rather than lots of effects used anywhere and at any time, *Parrotry Plus* 'remembers' every alteration and plays through the list to create animation. Note: can't dump pictures to printer without external program.

CRL Image System

CRL ☎ 01 533 2918
£19.95 tape, 24.95 disk ● *AA12*
Boasts range of picture manipulations and distortions, but lacks art options. Best on finished pictures – like a mini Quantel box.

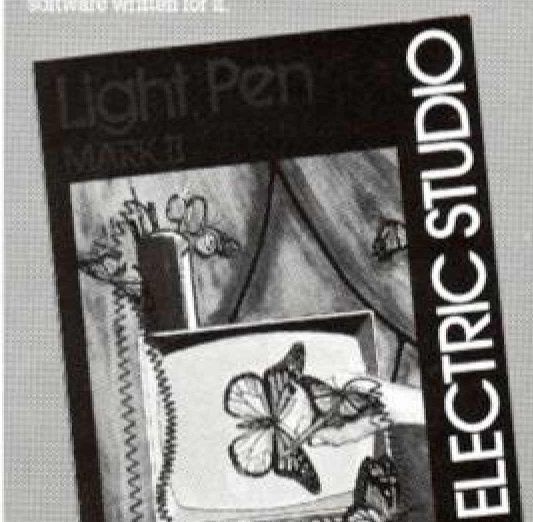


Vidi Digitizer

Rombo Productions ☎ 0506 414631
£89.95 ● *AA15*
Grabs picture from video recorder or camera and puts it on CPC screen, allowing you to alter it with an package. Easy to use. Software on tape, disk or ROM includes superb printer dump routine.

Electric Studio Light Pen

Electric Studio ☎ 0462 420222
£19.95 cass, £29.95 disk● *AA1*
Excellent drawing software, including rubber-banding shapes and lines, filling areas, spray-can etc. Accepts software written for it.



● Corrections, additions or ideas for sections to be included are welcome. Drop a line to: *AA Buyers, Amstrad Action*, 4 Queen St, Bath BA1 1EJ

Look out! AA53 will be out on Thursday 12th January – can you wait that long? Reserve your copy NOW.

AAfterthought

A delicate pot-pourri of leftovers and odds and ends, spiced liberally with blatant inaccuracies...

EXCLUSIVE – AA CHRIMBO PRESENTS LIST

The truth can at last be told. What *does* Trenton Webb want for Christmas apart from a poke on the jaw; just which frilly bedroom accessory *was* Ollie Alderton seen admiring in a shop window; how many satsumas *could* be squeezed into one of Rod Lawton's socks...?

A team of fearless *Daily Strop* investigative reporters has sneaked into the *AA* team's offices at dead of night and rummaged through their drawers to come up with copies of all those little letters to Santa...

Dear Santa,
I would like:

```
10 A 464 widget spigot degaussing module
20 A new potentiometer
30 14 Amstrad firmware manuals
40 Two azimuth alignment screws
50 296 pints of Carlsberg
```

Adam Waring

Dear Santa,
(always assuming you exist of course, which I very much doubt)
I would like:

- 2 coipes of Speelling For Absulote Illitarates
- 1 electric cattle prod
- 1 footstool
- 1 hand-tooled leather bullwhip

Rod Lawton

Dear Santa,
I would like AT LEAST ANOTHER SIXTEEN PAGES RIGHT THIS MINUTE.

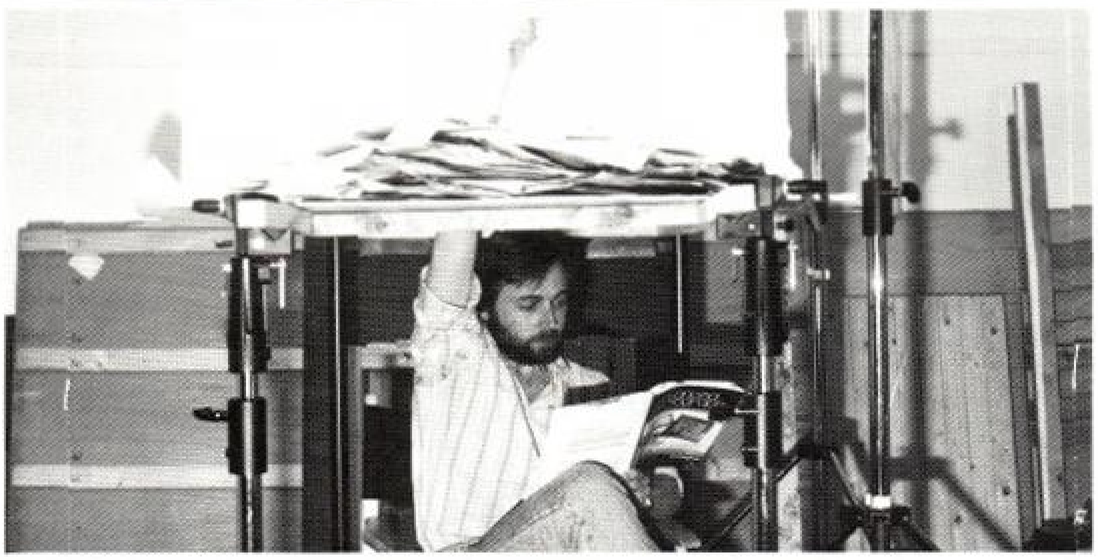
Emma Broadley

Dear Santa...
...I would like a belt-fed M60 and three cases of high-explosive grenades and a... and a T34 and a whole squadron of F16s and to attack Folkestone with the USS Nimitz and... and...

Trenton Webb

Dear Santa,
I would like to get some bloomin' pages for laying out on time... *(er yes, that's enough of that – ed)*

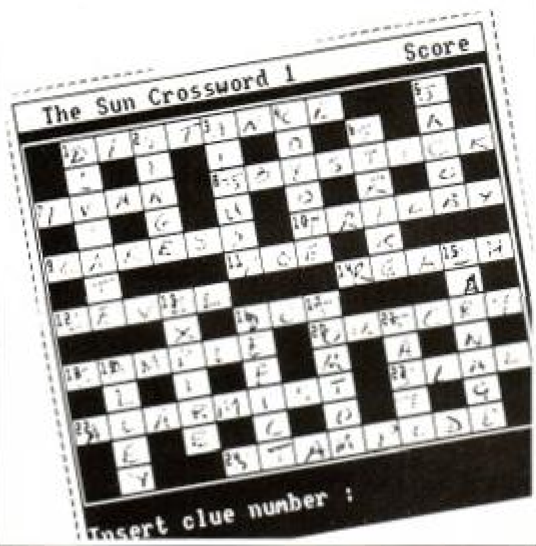
Ollie Alderton



● Editor Rod Lawton seen during a rare moment of relaxation during the photo shoot for the *AA Fourth Birthday* Competition prize-winners draw. This shot was taken by *AA*'s resident paparazzi Adam Waring and Trenton Webb, who are now looking for employment with a national newspaper. Especially since they've just been fired...

Crossword winner

Remember the prize crossword back in *AA49*? £15 was the prize on offer, and the lucky winner is none other than Martin Harrison from Sheffield. And just for all you doubting Thomases out there, here is the winning entry:



Filler Comp #4 results

We had a cascade of entries for our Filler Comp #4. Some of them were funny, some of them were very funny – and some of them were quite unprintable. They were funniest of all, even though they were improbable, unhygienic and anatomically frightening. The winning (printable) caption was penned by M. Weaver, from Wellington, Somerset. The £10 prize will be winging its way to you shortly Mr Weaver. Consolation mention goes to Kwokkuie Chung, who's got a great career ahead of him writing for the *Sun*...



● "See, that's what they use Ataris for – wheel-chocks!" – M Weaver, Wellington.

To the newsagent:* Amstrad Action *is distributed by COMAG

Dear newsagent,
Please reserve me a copy of the December issue of *Amstrad Action*, due out on Thursday 9 November

Name:

Address:

Telephone number:
If you're under 16, please get your parent or guardian to sign here:





Blow the Lid off your Micro!

The highly acclaimed program creator now gets even better!

Pandora has been greeted as a breakthrough in program development. It was specially written to drive the CPC's unique features to the limits, and now incorporates many new functions suggested by enthusiastic owners.

Here are some of the power-packed features from version 1.00

- Uses simple Basic commands
- Needs no knowledge of assembler
- Up to 48 standard or animated sprites
- Automatic animation and movement of sprites
- Super fast multi-featured sprite editor
- Compiles to stand-alone programs
- Can compile to memory for quick debugging
- Works with Basic or all wordprocessors that produce Ascii files
- Can compile directly from Protext memory
- Extensive graphics and sound facilities
- Comprehensive manual with examples
- Several demonstrations and working games included
- You can sell programs written with Pandora

But that's just for starters. Remember that Pandora is unique in that it has the features YOU want. At the request of many delighted owners, the latest version is now supplied with the following extras:

- Local variables
- Facility to call machine code routines
- Load files anywhere in memory
- Load and save sound envelopes
- Hex constants supported
- Simple use of logical operators
- Nested "FOR-NEXT" loops
- Even more flexible sprite editor

£14.95 Tape

£19.95 Disc

SWIFT software

Because Pandora is evolving all the time, we'll keep you up to date with enhancements, and for just £4.95 you'll be able to upgrade to the latest version! Also including the new version 2.00 due out in November and featuring numerous new enhancements.

Order your copy today and very shortly you'll be writing your own professional games in a fraction of the usual time, and without the fuss.

What the Press say

"This could be the start of something big" - New Computer Express, June 1989

"Easy to use sprite editor... Commands which any Basic programmer will understand... Writing your own games on the CPC has never been easier" - Amstrad User Club Newsletter, July 1989.

"You'd be astonished at what you can do with Pandora... The sprite handling offers exciting possibilities to the games writer... Pandora's advantage is its superior flexibility... looks like becoming an important addition to the CPC software catalogue" - Amstrad Action, August 1989.

ORDER FORM **AA1**

Please send me the following:

Pandora Tape	**£14.95**	☐
Pandora Disc	**£19.95**	☐
Upgrade from version 1.00 (Enclose your master disc as proof of purchase)	£4.95	☐

Name..........

Address..........

....

....

Postcode..........

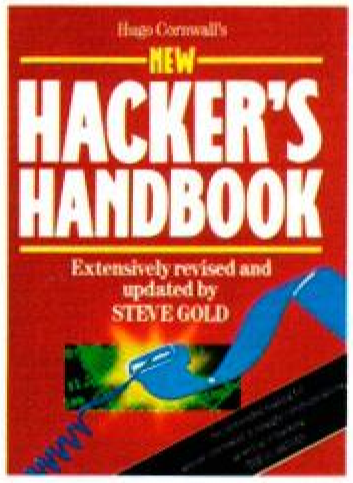
Tel..........

I enclose a Cheque / Eurocheque / Postal order made payable to Swift Software.
Swift Software, 347 London Road, Hazel Grove, Stockport, Cheshire, SK7 6AA.

AMSTRAD ACTION

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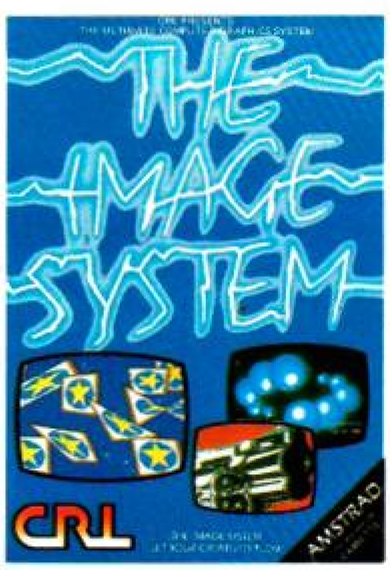
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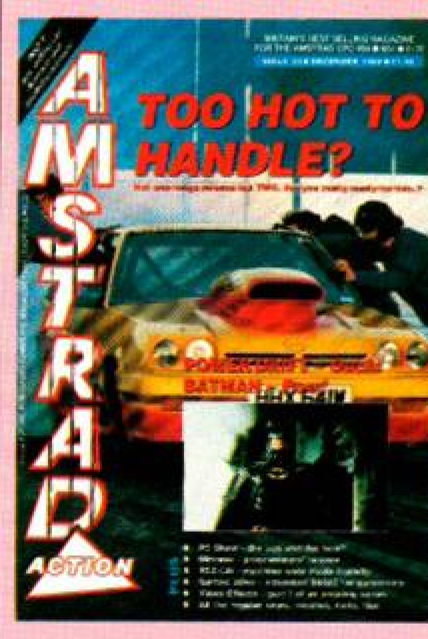
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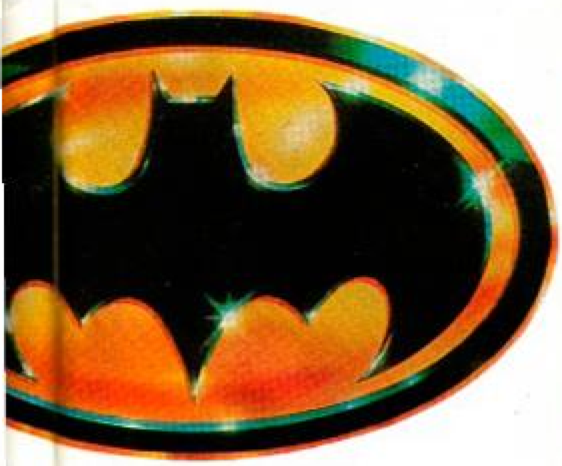
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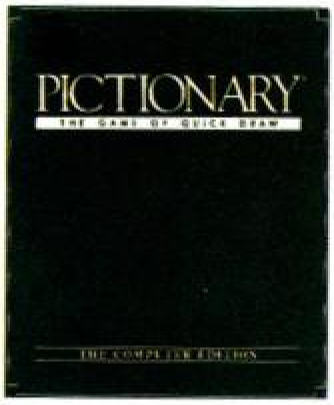
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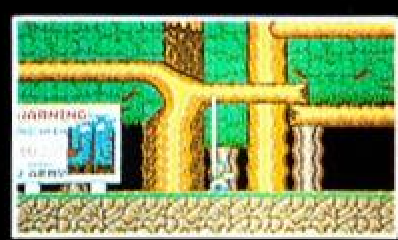
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